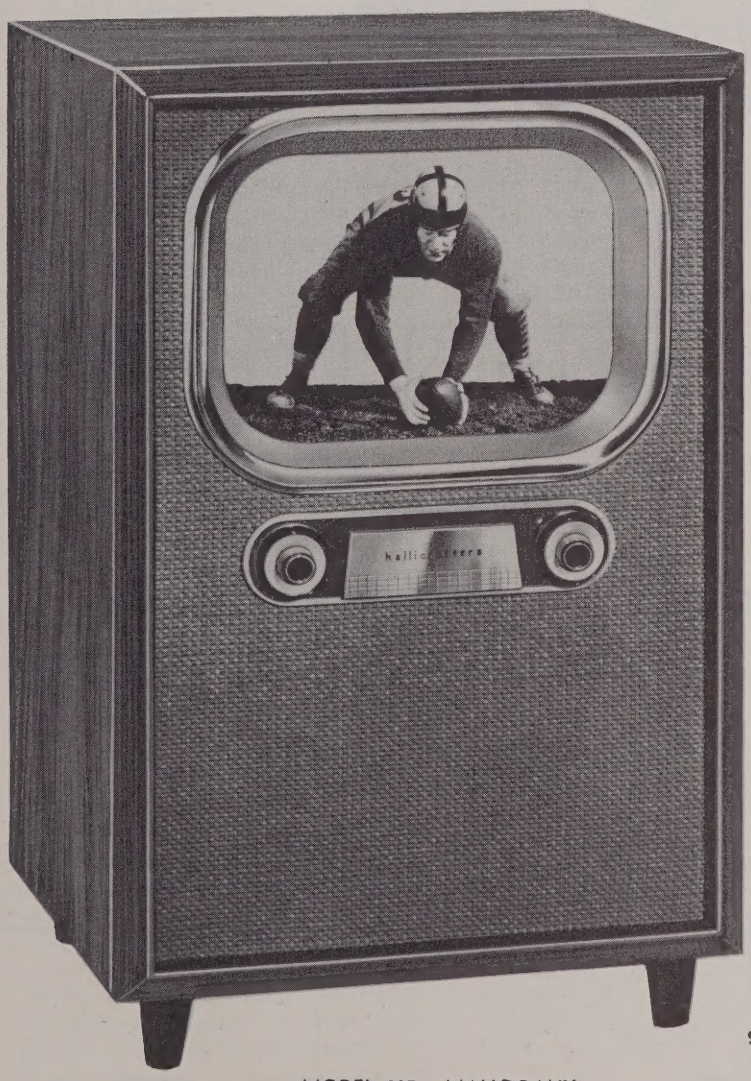
MODELS 805, 806, 810 & 810C

FORM 94X736-451
RUNS 1 thru 7
CHASSIS — M800S

television

SERVICE MANUAL



SERIES
800

92X1325

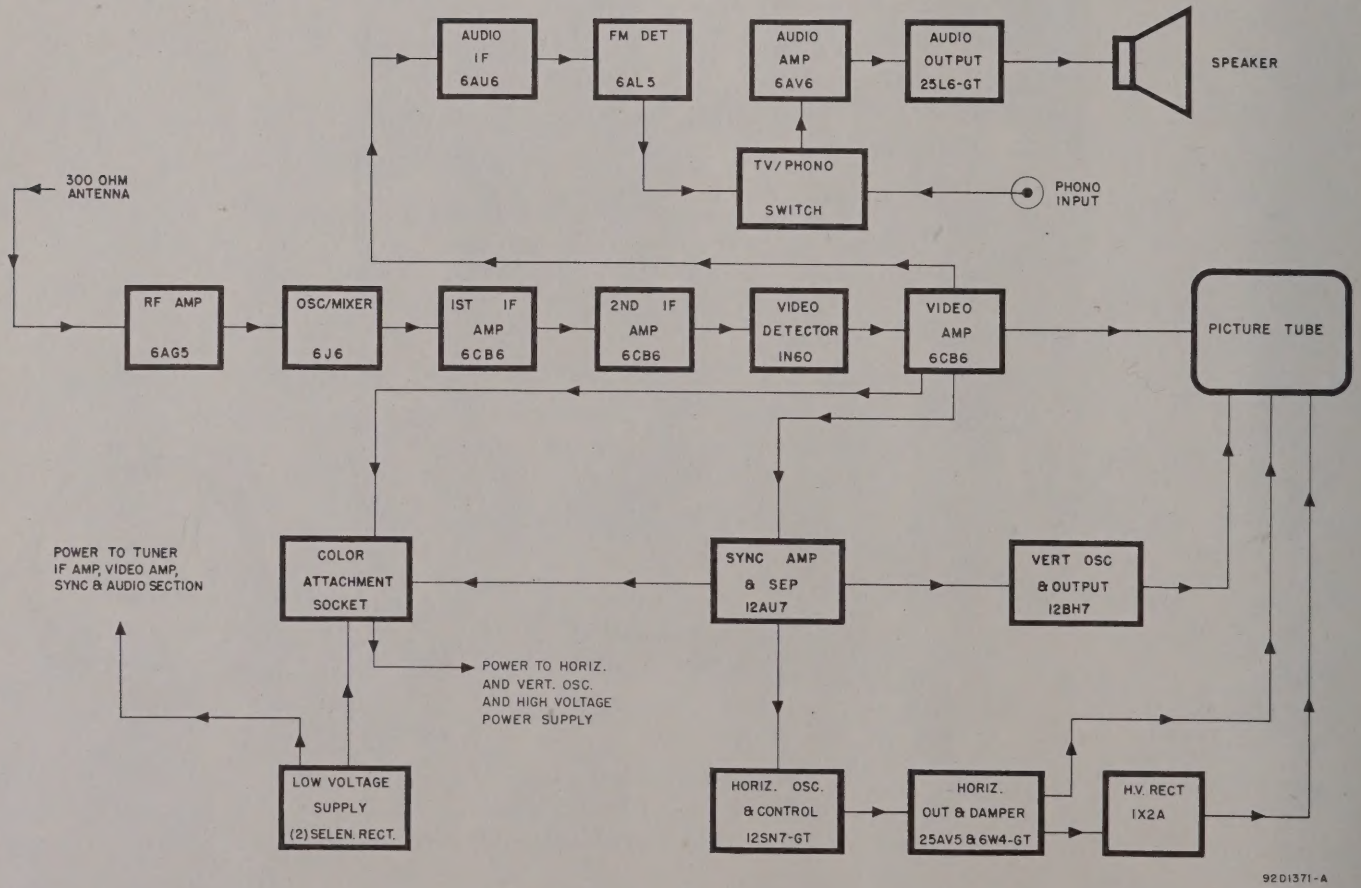
MODEL 805 - - MAHOGANY
MODEL 806 - - BLONDE

(SEE PAGE 2 FOR OTHER CABINET ILLUSTRATIONS)

the hallicrafters co.
MANUFACTURERS OF RADIO AND ELECTRONIC EQUIPMENT, CHICAGO 24, U. S. A.

MODEL 810 -- MAHOGANY
MODEL 810C-- LEATHERETTE

92X1324



NOTE: FOR ALTERNATE TUBE TYPES REFER TO THE TUBE COMPLEMENT ON PAGE THREE

FIG. 1. FUNCTIONAL BLOCK DIAGRAM

GENERAL SPECIFICATIONS

TUNING	12 CHANNELS 2-13.
ANTENNA	HALLICRAFTERS BUILT-IN SILVER VORTEX.
INTER-CARRIER SOUND SYSTEM	4.5 MC.
POWER SUPPLY	110 - 120 VOLTS. 60 CYCLES AC.
PICTURE AREA	135 SQ. INCHES.
SPEAKER (MODELS 805 & 806)	8 INCH PM.
(MODELS 810 & 810C)	5 INCH PM.
PICTURE CARRIER IF	26.25 MC.
SOUND CARRIER IF	21.75 MC.
POWER INPUT	150 WATTS.
TUBES	16 INCLUDING 1 RECTIFIER PLUS 2 SELENIUM RECTIFIERS & 1 GERMANIUM DIODE.

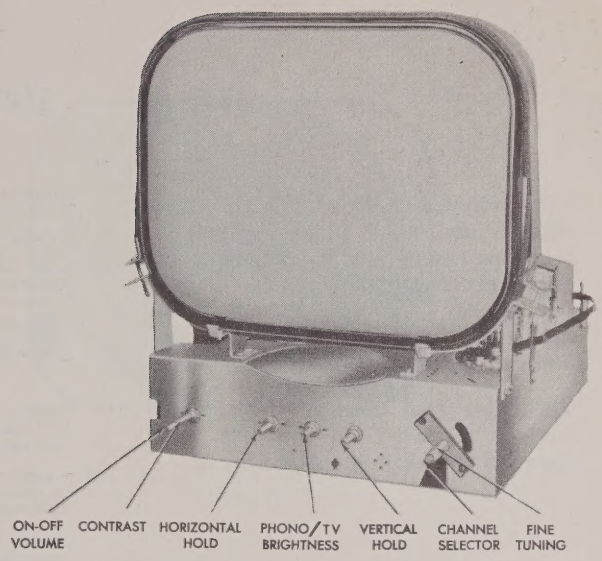


FIG. 2. CHASSIS FRONT VIEW 92X1276-A

TUBE COMPLEMENT

V-1	6CB6 or 6BC5 or 6AG5	RF AMPLIFIER
V-2	6J6	OSC/MIXER
V-101	6CB6	1ST IF AMPLIFIER
V-102	6CB6	2ND IF AMPLIFIER
V-103	6CB6	VIDEO AMPLIFIER
V-104	12AU7	SYNC. AMP. & SEP.
V-105	12BH7 (12SN7GT)	VERT. OSC. & OUT.
V-106	6AU6	AUDIO IF AMP.
V-107	6AL5	AUDIO DETECTOR
V-108	6AV6 (6SQ7)	1ST AUDIO AMP.
V-109	25L6GT	AUDIO OUTPUT
V-110	12SN7GT	HORIZ. OSC. & CONTROL
V-111	25AV5GT (25BQ6GT)	HORIZ. OUTPUT AMP.
V-112	1X2A	H. V. RECTIFIER
V-113	6W4GT	DAMPER
V-114	16RP4 or 16TP4 or 16UP4	16" RECTANGULAR BLACK PICTURE TUBE

Tubes shown in parentheses in the above list are alternate types which are not directly interchangeable. When replacing tubes use the same types found in the receiver chassis.

PRODUCTION CHANGES

RUN	CHASSIS STAMP*	CHANGES
1	None	No changes other than alternate tube (6SQ7) used for V-108 on some chassis.
2	M	Several circuit modifications in the Tuner-IF-Video-Sync. Amp. strip and minor changes in the Deflection, H.V., and Sweep circuits. Alternate tube (6SQ7) used for V-108 on some chassis. See Fig. 25.
3	M3	Same as Run 2 chassis except alternate tube (12SN7GT) used for V-105 on some chassis. See schematic note covering the change in value for R-170 when the alternate tube is used for V-105. See Fig. 25.
4	M4	Combination Electro-magnet and Permanent magnet (EM-PM) focus assembly used. Focus control added to back apron of chassis. See Figs. 3 & 26.
5	M5	Same as Run 4 except alternate tube (25BQ6GT) used for V-111. See Fig. 26.
6	M6	Same as Run 4 except alternate tubes used for V-105, V-108, and V-111. EM-PM focus assembly was used on most chassis. However, some of the Run 4, 5 and 6 chassis will be found with a permanent magnet focus device. See Fig. 27.
7	M7	See Fig. 21 and notes on page 18.

* The stamp designating the run number will be found on the rear apron of the chassis.

HIGH VOLTAGE WARNING

OPERATION OF THE RECEIVER CHASSIS OUTSIDE OF THE CABINET INVOLVES DANGER OF ELECTRICAL SHOCK. EXERCISE ALL NORMAL HIGH VOLTAGE PRECAUTIONS WHEN WORKING WITH THIS RECEIVER.

SERVICE ADJUSTMENTS

Two different types of FOCUS CONTROLS are used in these models. One type consists of a knurled metal shaft protruding from the bottom portion of the dome shaped shield over the rear end of the picture tube. See Fig. 4.

The other type consists of an extra control mounted on the left rear apron of the chassis. See Fig. 3.

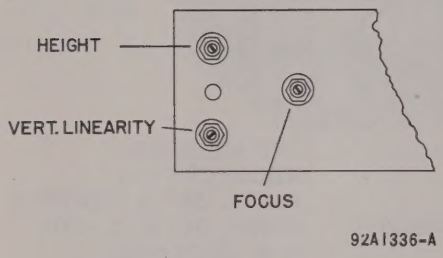


FIG. 3. FOCUS CONTROL LOCATION FOR EM-PM FOCUS COIL.

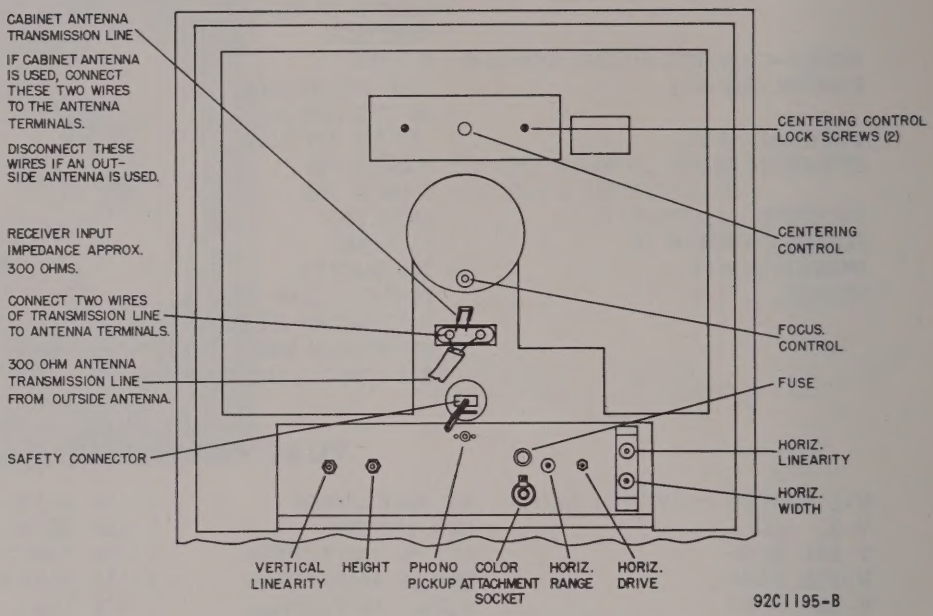


FIG. 4. REAR VIEW WITH PM FOCUS DEVICE.

The adjustment for either type of control is the same. With all other controls set for a normal picture the FOCUS CONTROL should be adjusted until the horizontal lines which make up the picture are as fine and distinct as possible. Use the lines in the center portion of the picture for this adjustment.

The following service adjustments will require only occasional minor adjustment as tubes age or are replaced. Any circuit changes or repairs will probably necessitate readjustment of the service adjustments. A test pattern, generated either locally in the shop or obtained from a television station, is recommended for best results. The operating and auxiliary controls, located on the front panel, should be set for as good a pattern as possible before making any of the following adjustments.

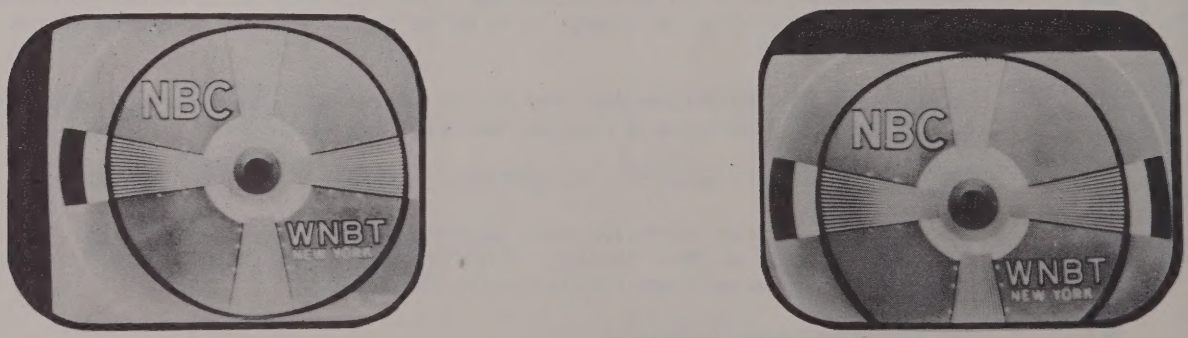


FIG. 5. CENTERING MISADJUSTMENTS

If the picture is not properly centered remove the two centering control lock screws and move the centering control lever a short distance in any direction required to center the picture. Do not use force in making this adjustment as excessive strain may be exerted on the neck of the picture tube causing it to implode with dangerous and destructive violence. If proper centering cannot be restored in this manner a slight readjustment of the deflection yoke mounting may be necessary.

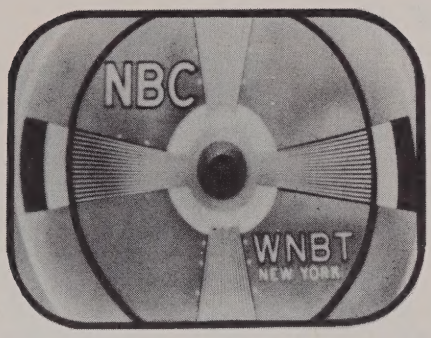


FIG. 6. HEIGHT CONTROL MISADJUSTMENT

FIG. 7. WIDTH CONTROL MISADJUSTMENT

Adjust the **HEIGHT** and **WIDTH** controls so that the picture fills out the dimensions of the screen. A slight readjustment of the **CENTERING** control may then be necessary.

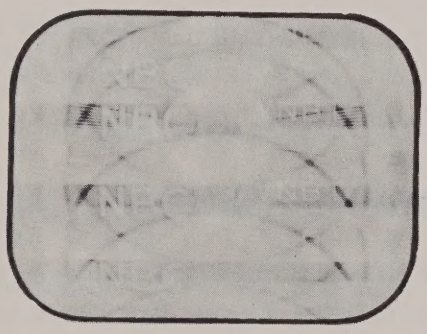


FIG. 8. VERTICAL HOLD MISADJUSTMENT

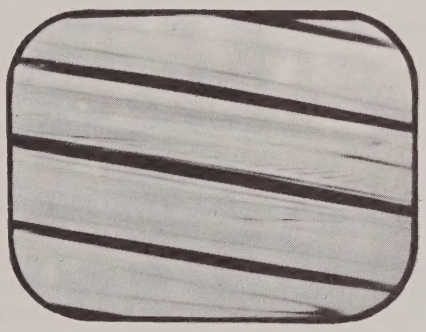


FIG. 9. HORIZONTAL HOLD MISADJUSTMENT

Adjust the **VERTICAL** and **HORIZONTAL HOLD** controls for a single steady picture. When the **HORIZONTAL HOLD** control is properly adjusted it should be possible to switch from one station to another with the picture remaining steady on any station.

FIG. 10. VERTICAL LINEARITY CONTROL MISADJUSTMENT

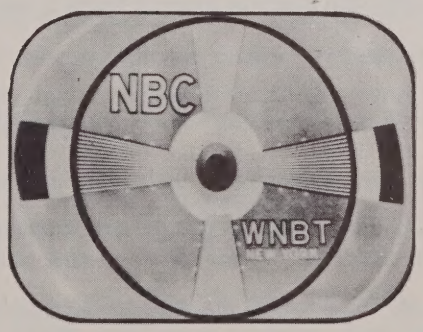


FIG. 11. HORIZONTAL LINEARITY CONTROL MISADJUSTMENT

Adjust the **HORIZONTAL LINEARITY** and **VERTICAL LINEARITY** controls for a symmetrical pattern. A slight. readjustment of the **HEIGHT** and **WIDTH** controls may be necessary.

TEST PATTERNS COURTESY RCA SERVICE CO.

WARNING

PICTURE TUBE HANDLING PRECAUTIONS

The picture tube envelope encloses a high vacuum. Any accidental blow or rough handling may cause the tube to implode with dangerous and destructive violence. The picture tube should be handled only by qualified persons protected by heavy gloves and shatterproof goggles.

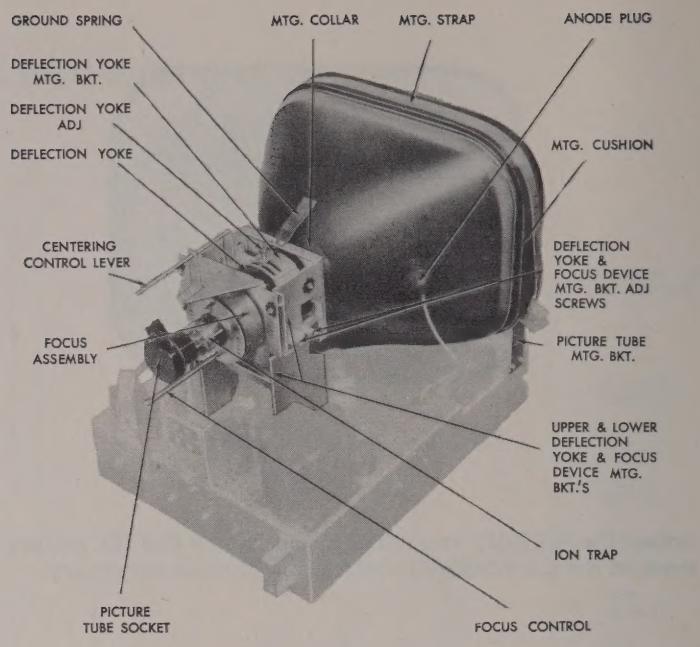


FIG. 12. PICTURE TUBE MOUNTING DETAIL

TO REMOVE THE CHASSIS FROM THE CABINET

1. Remove the knobs on the front panel by pulling them straight forward in line with the shafts on which they are mounted.
2. Loosen the panel, mounted on the cabinet back, through which the CENTERING CONTROL LEVER protrudes by removing the two CENTERING CONTROL LOCK SCREWS.
3. Remove the screw located directly above the SAFETY CONNECTOR.
4. Remove the cabinet back by unscrewing the wood screws holding it in place.
5. Remove the speaker plug at the chassis. On the table models, remove the speaker mounting nuts and lift out the speaker.
6. Disconnect the built-in antenna leads from the antenna terminal strip.
7. Remove the five chassis mounting screws on the bottom of the cabinet and slide the chassis from the cabinet.

REMOVING THE PICTURE TUBE

1. Remove the chassis from the cabinet by following the above procedure.
2. Disconnect the ANODE PLUG (PL-104) from the side of the tube. Discharge the aquadag coating by shorting the ANODE CONTACT to the outer coating of the tube.
3. Disconnect the TUBE SOCKET at the base of the tube.
4. Slip the ION TRAP from the neck of the tube.
5. Remove the MOUNTING STRAP from the front rim of the tube.
6. Loosen the four REAR SUPPORT ADJUSTMENT SCREWS. Raise the front of the tube just far enough to clear the two stop pads on the front of the picture tube mounting brackets and slip the tube forward until the neck is clear of the DEFLECTION YOKE and FOCUS assembly.

CAUTION: If the tube fails to slip out smoothly, investigate and remove the cause of trouble. DO NOT USE FORCE.

INSTALLING AND ADJUSTING THE PICTURE TUBE

1. Wrap the RUBBER STRIP around the front rim of the tube. A rubber band or string may be used to hold the strip in place.

2. Position the tube so that the ANODE CONTACT is located at the left side of the tube when viewed from the screen.

3. Slip the neck of the tube through the RUBBER COLLAR, DEFLECTION YOKE, and FOCUS ASSEMBLY. Seat the tube so that the RUBBER STRIP rests on the two front mounting brackets. Make sure that the bottom face of the tube rests against the rubber stop pads and not against the metal mounting brackets for the pads.

4. Place the MOUNTING STRAP around the RUBBER STRIP and tighten firmly.

5. Move the REAR SUPPORT so that the RUBBER COLLAR rests firmly against and supports the cone of the tube. Tighten the REAR SUPPORT ADJUSTMENT SCREWS.

6. Check the ION TRAP for any markings and slip it over the neck of the tube. If the ION TRAP is stamped with an arrow, the arrow should point towards the face of the tube.

7. Connect the PICTURE TUBE SOCKET and the ANODE PLUG (PL-104).

8. Turn the receiver "ON" and allow a few minutes for warm up.

9. Turn up the BRIGHTNESS control and set the ION TRAP for maximum raster brilliance. Adjust the BRIGHTNESS control for slightly above normal brilliance and readjust the ION TRAP for maximum raster brilliance. The ION TRAP must be rotated about the axis of the tube as well as shifted along the neck to obtain the proper setting.

10. With the BRIGHTNESS control set for slightly above normal brilliance and the CONTRAST control full counter-clockwise adjust the FOCUS control until the lines forming the raster are as sharp and clear as possible. Re-adjust the BRIGHTNESS control for normal brilliance and touch-up the ION TRAP setting.

11. Connect the antenna and tune in a test pattern.

12. Readjust the CONTRAST control until the different shades of the gray scale are clearly visible on the test pattern.

13. Check the position and appearance of the test pattern. If it is off center or shadowed at the corners (electron beam striking the neck of the tube) adjust the CENTERING LEVER. Touch-up the setting of the ION TRAP and FOCUS control.

CAUTION: It will not be necessary to move the CENTERING LEVER excessively. Excessive force on this lever may cause the neck of the tube to break and the tube will implode with a dangerous and destructive violence.

14. If the lines of the raster are not horizontal or square with the escutcheon, loosen the DEFLECTION YOKE ADJ. thumb screw and rotate the DEFLECTION YOKE until the proper raster position is obtained. Tighten the thumb screw after completing the adjustment.

15. Follow the procedure under SERVICE ADJUSTMENTS and make any minor adjustment of the FOCUS ASSEMBLY or DEFLECTION YOKE necessary to obtain the desired results.

PICTURE TUBE ANODE HIGH VOLTAGE MEASUREMENT

The second anode potential should be approximately 12,500 volts in a receiver that is functioning properly. If it is possible to obtain good picture brilliance the second anode potential is correct and need not be measured.

The setting of the HORIZONTAL DRIVE control will affect the high voltage on the second anode. Instructions for setting this control are given under the HORIZONTAL OSCILLATOR ADJUSTMENT instructions.

If it becomes necessary to measure the voltage present on the second anode a meter specifically designed for high voltage measurements should be used. The CONTRAST and BRIGHTNESS controls should be rotated to the extreme counterclockwise position and PL-104 should be connected to the picture tube. Under these conditions the test meter will load the high voltage power supply approximately the same as the picture tube during normal operation. The high voltage filter capacitor, built into the picture tube, will be in the circuit when PL-104 is connected.

CAUTION HIGH VOLTAGE

DO NOT USE HAND HELD FLEXIBLE TEST LEADS WHEN MAKING HIGH VOLTAGE MEASUREMENTS ON THE SECOND ANODE. An 11 to 14 KV. POTENTIAL EXISTS IN THIS CIRCUIT. ANY ACCIDENTAL CONTACT WITH SUCH A HIGH VOLTAGE CAN CAUSE A SEVERE BURN OR BE FATAL.

HORIZONTAL OSCILLATOR ADJUSTMENT

If the HORIZONTAL HOLD control on the front panel fails to restore synchronization the HORIZONTAL RANGE adjustment will have to be reset.

1. Center the HORIZONTAL HOLD control on the front of the receiver by positioning it in the center of the range over which it may be rotated.

2. Adjust the HORIZONTAL RANGE control on the rear apron of the chassis until proper synchronization is obtained.

3. Test the synchronization on all active channels. The picture should remain in synchronization when switching from one active channel to another without any adjustment of the HORIZONTAL HOLD control or HORIZONTAL RANGE adjustment.

4. Repeat steps 1 and 2 if necessary.

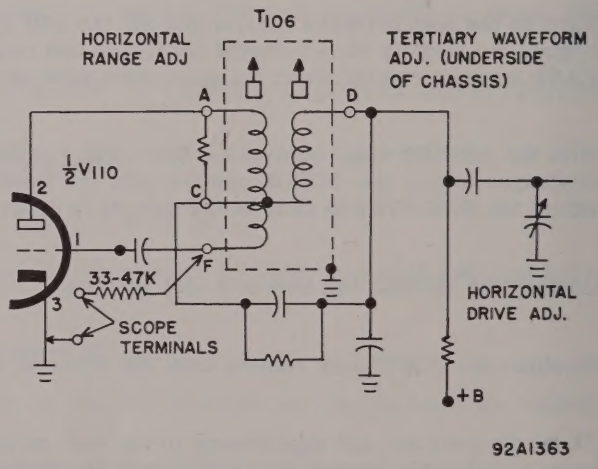
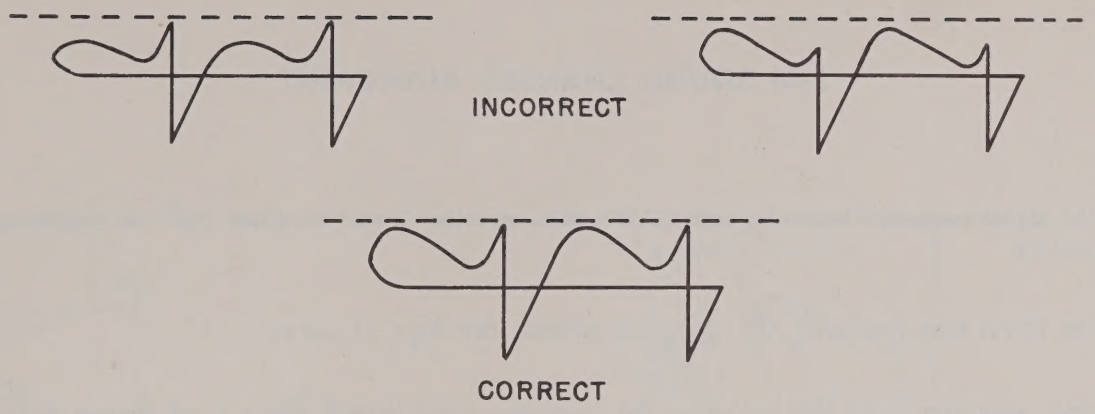


FIG. 13. OSCILLOSCOPE CONNECTION FOR HORIZONTAL OSCILLATOR ADJUSTMENT

If the above procedure fails to restore stable synchronization, a waveform adjustment may be made with the aid of an oscilloscope.

5. Connect the VTVM to test point Ⓓ and adjust the HORIZONTAL DRIVE padder for -22.5 to -25 volts as read by the VTVM. (Refer to Fig. 19 and Fig. 20).

6. Connect the oscilloscope as shown in Fig. 13. Adjust the TERTIARY WAVEFORM slug (slug located under chassis) until the sine wave is equal in amplitude to the peak of the sawtooth (See Fig. 14.), while maintaining the picture in synchronization with the HORIZONTAL RANGE adjustment.



92A1188

FIG. 14. HORIZONTAL OSCILLATOR WAVEFORMS

This adjustment is very important for correct operation of the circuit. If the broad peak of the wave on the oscilloscope is lower than the sharp peak, the noise immunity becomes poorer, the stabilizing effect of the tuned circuit is reduced and drift of the oscillator becomes more serious.

On the other hand, if the broad peak is higher than the sharp peak, the oscillator is overstablized, the pull-in-range becomes inadequate and the broad peak can cause double triggering of the oscillator when the hold control approaches the extreme clockwise position.

7. Remove the oscilloscope and repeat step 5.

8. Repeat steps 1, 2, and 3 if necessary to provide positive synchronization on all active channels.

CHANNEL—CARRIER—OSC.—I F FREQUENCY CHART

Channel No.	Channel Freq. (mc)	Picture Carrier Freq. (mc)	Sound Carrier Freq. (mc)	Receiver Osc. Freq. (mc)	Picture IF Freq. (mc)	Sound IF Freq. (mc)	Picture IF less Sound IF (mc)
2	54-60	55.25	59.75	81.5	26.25	21.75	4.5
3	60-66	61.25	65.75	87.5	26.25	21.75	4.5
4	66-72	67.25	71.75	93.5	26.25	21.75	4.5
5	76-82	77.25	81.75	103.5	26.25	21.75	4.5
6	82-88	83.25	87.75	109.5	26.25	21.75	4.5
7	174-180	175.25	179.25	201.5	26.25	21.75	4.5
8	180-186	181.25	185.75	207.5	26.25	21.75	4.5
9	186-192	187.25	191.75	213.5	26.25	21.75	4.5
10	192-198	193.25	197.75	219.5	26.25	21.75	4.5
11	198-204	199.25	203.75	225.5	26.25	21.75	4.5
12	204-210	205.25	209.75	231.5	26.25	21.75	4.5
13	210-216	211.25	215.75	237.5	26.25	21.75	4.5

F-M SOUND CHANNEL ALIGNMENT

1. Connect the signal generator output through a 0.005 mfd. capacitor from test point Ⓐ* to chassis ground. See Figs. 15 and 19.

2. Connect the VTVM from test point Ⓑ to chassis ground. See Figs. 24 and 29.

3. Set the signal generator to 4.5 MC. and adjust the generator output level to give a 1 volt reading on the voltmeter.

4. Adjust the 4.5 MC. SOUND ADJUSTMENT and the primary of T-101 (bottom adjustment) for a maximum indication on the voltmeter. Reduce the output of the generator as the alignment progresses to keep the voltmeter reading at approximately 1 volt.

5. Connect the VTVM from test point Ⓒ to chassis ground and adjust the secondary of T-101 (top adjustment) for a zero reading on the VTVM between a positive and negative peak. If the zero reading occurs at more than one setting, use the position nearest the top limit of the tuning slug.

6. Shift the signal generator frequency an equal amount on each side of 4.5 MC. and touch-up the primary of T-101 for approximately equal peaks.

IF AMPLIFIER ALIGNMENT

1. Connect the VTVM from test point Ⓐ* to chassis ground. See Figs. 15 and 19.

2. Place a tight fitting shield over the OSC./MIXER tube (V-2) and connect the ungrounded or "HOT" lead of the signal generator to this shield. This shield should not be grounded. Connect the ground side of the signal generator to the frame of the tuning unit.

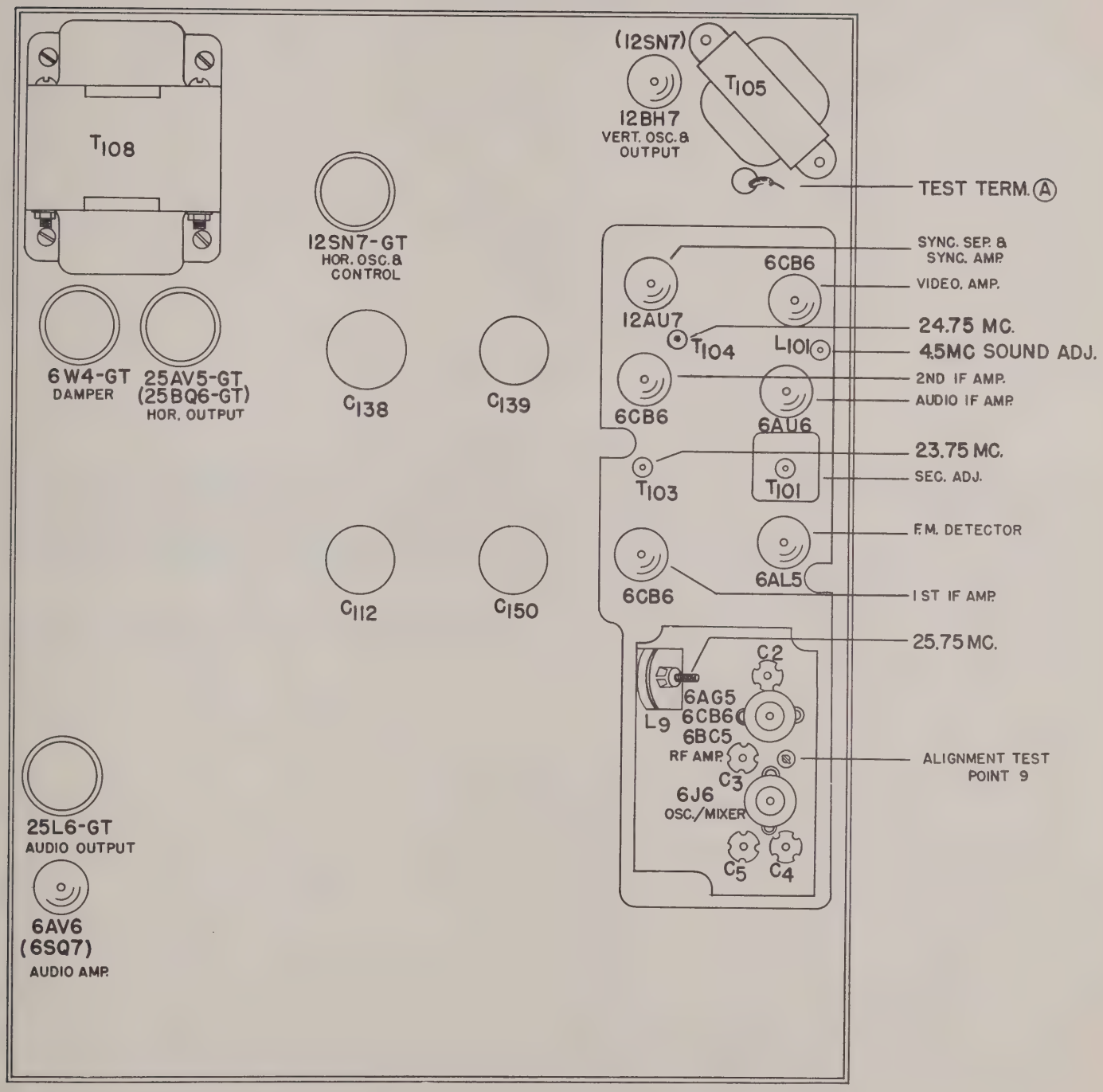
3. Turn the CHANNEL TUNING control to any vacant channel.

4. Set the signal generator output (unmodulated) to develop approximately a 2 volt reading on the VTVM. Adjust the i-f amplifier coils at the frequencies given in the following chart. Adjust for a maximum voltmeter reading and attenuate the generator output as necessary to maintain the 2 volt reading.

IF AMPLIFIER ALIGNMENT CHART

Signal Generator Frequency (No Modulation)	Adjustment (Refer to Fig. 15)	
25.75 MC	L-9	(1st IF)
23.75 MC	T-103	(2nd IF)
24.75 MC	T-104	(Detector IF)

* Test point Ⓐ is located on top of the chassis as shown in Fig. 15 on all chassis except those produced during Run 1. For the location of this test point on the Run 1 chassis refer to the schematic diagram and Fig. 19.



92D1277-C

FIG. 15. TOP VIEW ALIGNMENT LOCATIONS

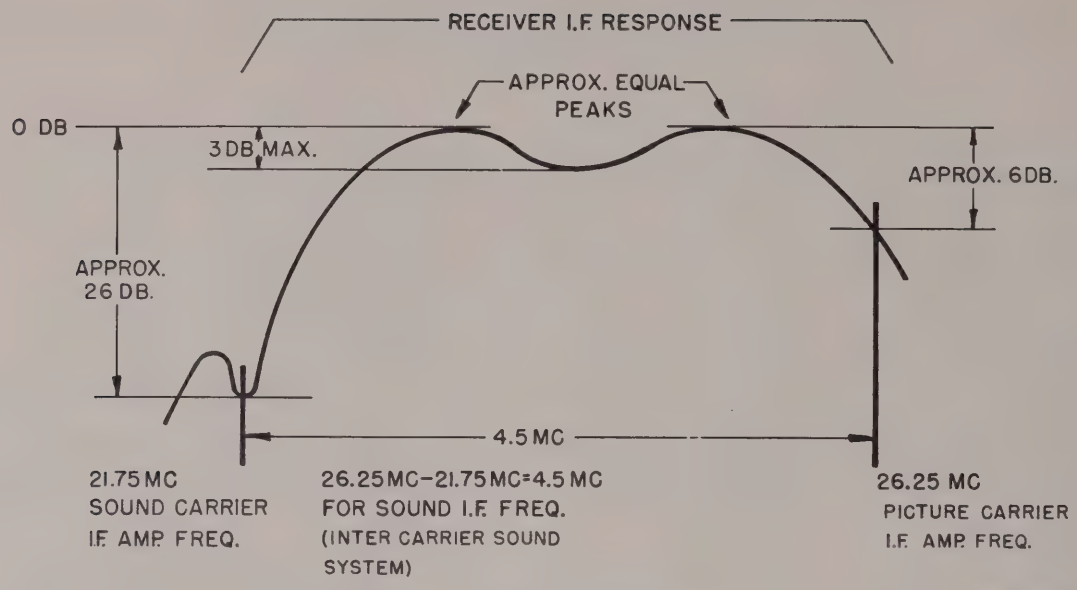


FIG. 16. IF AMPLIFIER RESPONSE

TUNER ALIGNMENT

The tuner supplied in this television receiver was carefully aligned at the factory and should not require complete realignment under normal conditions. A slight readjustment of the individual oscillator slugs may be required as the tubes in the tuner age or are replaced. In some rare cases it will be necessary to realign the tuner after replacing either of the two tubes. If any service work is performed on the tuner, realignment may or may not be required. NO ATTEMPT TO REALIGN THE TUNER SHOULD BE MADE UNTIL THE BALANCE OF THE TV RECEIVER IS KNOWN TO BE IN PROPER OPERATING CONDITION AND IS PROPERLY ALIGNED.

When replacing the R.F. amplifier tube use the same type tube as the one found in the tuner. The other alternate tubes may be used for V-1 but the use of a tube other than the type found in the tuner may make it necessary to realign the R. F. and mixer portion of the tuner.

EQUIPMENT REQUIRED

1. Sweep generator covering all 12 television channels.
2. Marker generator covering the same range as the sweep generator.
3. Signal generator which has an output (unmodulated) on 26.25 MC.
4. Oscilloscope.
5. Vacuum tube voltmeter (VTVM).

R.F. AND MIXER ALIGNMENT

1. Set the CHANNEL SELECTOR switch to channel 12.
2. Connect the oscilloscope through a 10,000 ohm resistor to test point 9. See Fig. 15.
3. Connect the negative side of a 1.5 volt battery to the terminal where the AGC lead (white wire) from the tuner and one lead from R-117 are connected. Refer to Fig. 20. The positive side of the battery should be connected to the receiver chassis.
4. Set the FINE TUNING control at the approximate midpoint of its tuning range.
5. Connect the sweep generator to the antenna terminals and adjust the output to sweep channel 12.
6. Loosely couple the output from the marker generator to the antenna terminals. Use the minimum amount of coupling and signal from the marker generator required to give a good marker or pip on the oscilloscope pattern.

7. Adjust C-2, C-3, and C-4 for maximum gain and a flat-top response curve approximately 4.5 MC wide. All other channels should be checked to be sure they have approximately the same response. The correct marker frequencies for each channel are given in the Picture Carrier and Sound Carrier columns of the chart on the bottom of page 9.

8. Disconnect the battery used to obtain negative bias.

9. Disconnect the test equipment and air check the receiver on all active channels. If it is possible to receive a normal picture on all active channels by adjusting the FINE TUNING control, further alignment will not be necessary.

OSCILLATOR ALIGNMENT

1. Set the FINE TUNING control at the approximate midpoint of its tuning range.

2. Place a non-metallic screwdriver through the openings provided in the front of the chassis and the tuner assembly and adjust the oscillator coil slug for each active channel to give the best possible picture.

If the oscillator slug-adjustment does not have sufficient range to tune in a good picture on any active channel it will be necessary to adjust C-5. The procedure for this adjustment is as follows:

WITH INSTRUMENTS:

3. Set the CHANNEL SELECTOR switch to channel 12.

4. Connect the marker generator to one antenna terminal and ground. Set generator to 209.75 MC.

5. Connect the output of another signal generator to point Ⓐ through a 47,000 ohm resistor and adjust the generator frequency to 26.25 megacycles.

6. Connect the VTVM to point Ⓒ (see Fig. 20.) and adjust C-5 for a zero reading on the VTVM between a positive and negative peak.

7. Use only sufficient output from the signal generators to obtain a useable meter reading.

8. Repeat steps 1 and 2.

9. Repeat steps 3 through 8 if necessary.

WITHOUT INSTRUMENTS:

3. Set the CHANNEL SELECTOR switch to any active channel on which a picture or test pattern can be received. Preferably select a station operating on the highest frequency or channel.

4. Adjust C-5 for the best possible picture.

5. Repeat steps 1 and 2.

6. Repeat steps 3 through 5 if necessary.

SERVICE PARTS LIST FOR TUNER

Hallicrafters Part Number	Description	Hallicrafters Part Number	Description
121A001	Fine tuning assembly shaft & cam	121A020	Channel 7 r-f & osc. coil
121A002	Drum & shaft assembly, less coils	121A021	Channel 8 r-f & osc. coil
121A003	Channel 2, antenna coil	121A022	Channel 9 r-f & osc. coil
121A004	Channel 3 antenna coil	121A023	Channel 10 r-f & osc. coil
121A005	Channel 4 antenna coil	121A024	Channel 11 r-f & osc. coil
121A006	Channel 5 antenna coil	121A025	Channel 12 r-f & osc. coil
121A007	Channel 6 antenna coil	121A026	Channel 13 r-f & osc. coil
121A008	Channel 7 antenna coil	121A027	Detent roller
121A009	Channel 8 antenna coil	121A028	Fiber washer
121A010	Channel 9 antenna coil	121A029	Spring, fine tuning ground
121A011	Channel 10 antenna coil	121A030	Spring, shaft retaining (2 req.)
121A012	Channel 11 antenna coil	121A031	Spring, detent
121A013	Channel 12 antenna coil	121A032	L-9 peaking coil
121A014	Channel 13 antenna coil	121A033	Slug, osc. coil adjustment
121A015	Channel 2 r-f & osc. coil	121A034	Spring, osc. coil slug retaining
121A016	Channel 3 r-f & osc. coil	121A035	Stator contact assembly
121A017	Channel 4 r-f & osc. coil	121A036	Fine tuning capacitor plate
121A018	Channel 5 r-f & osc. coil	121A037	Spring, detent ground
121A019	Channel 6 r-f & osc. coil		

NOTE: The last two numbers of the part numbers shown in the Service Parts List are used to identify the corresponding part in the illustration for Fig. 17.

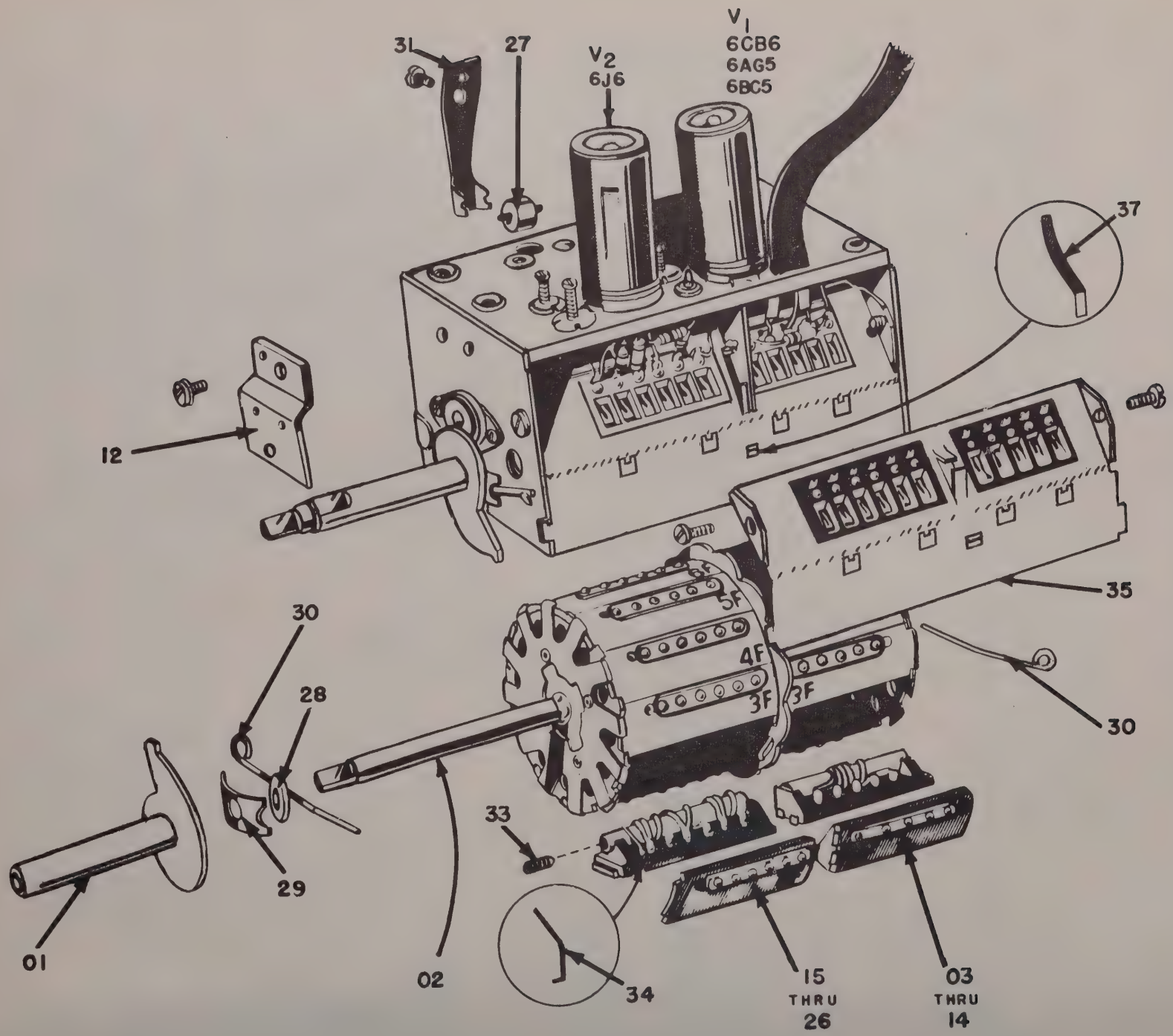


FIG. 17. TUNER REPLACEABLE PARTS

92B1384

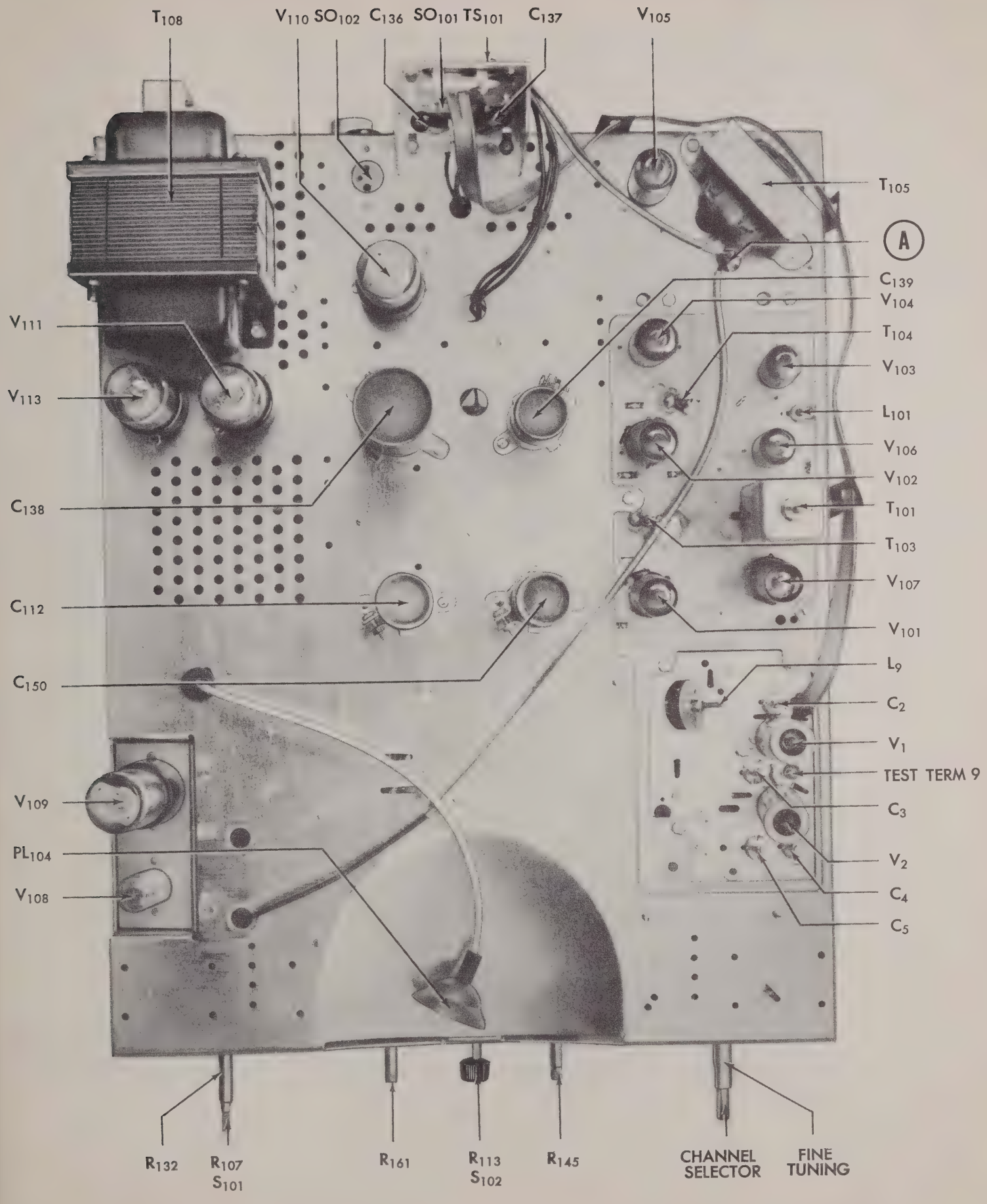
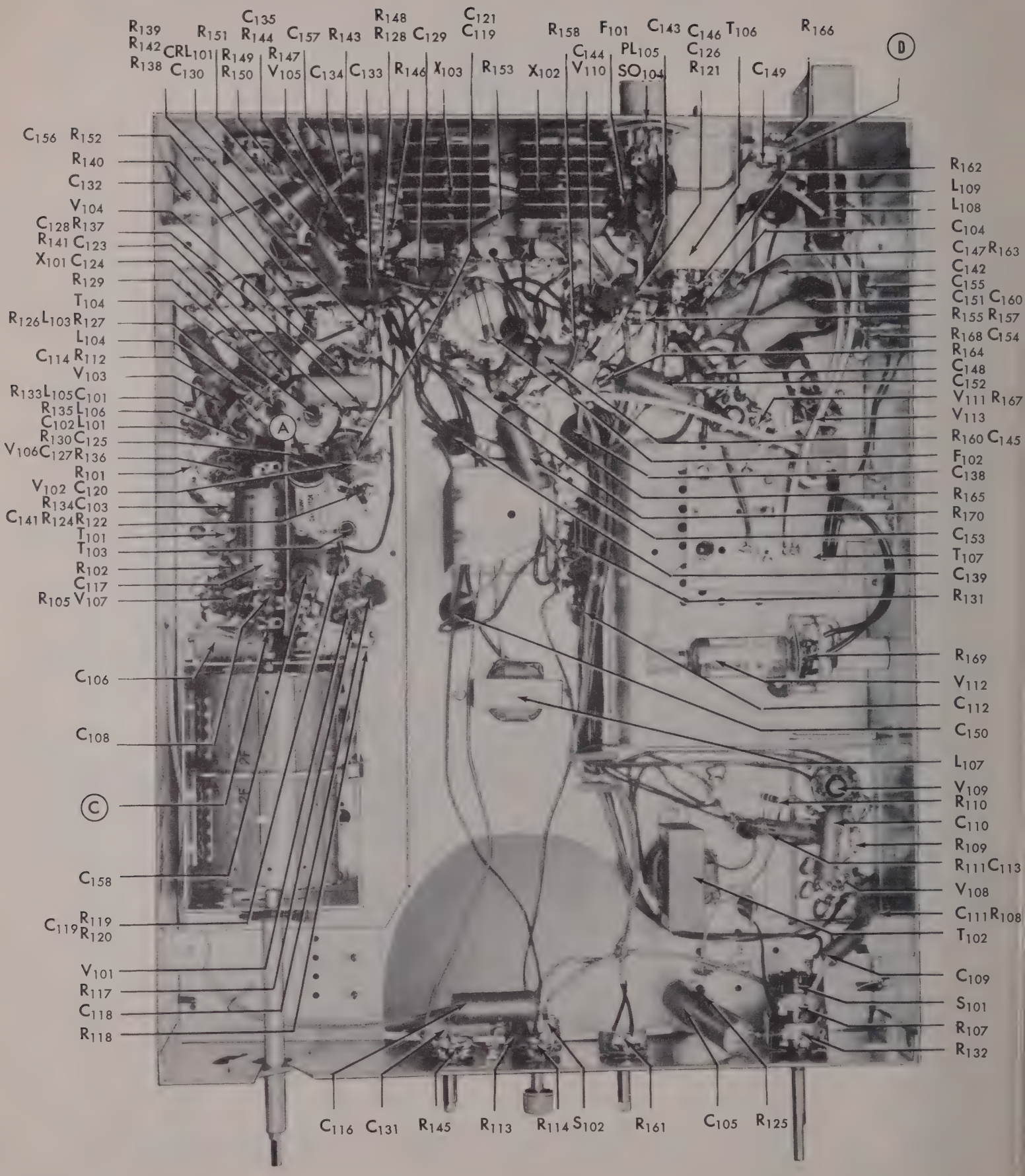
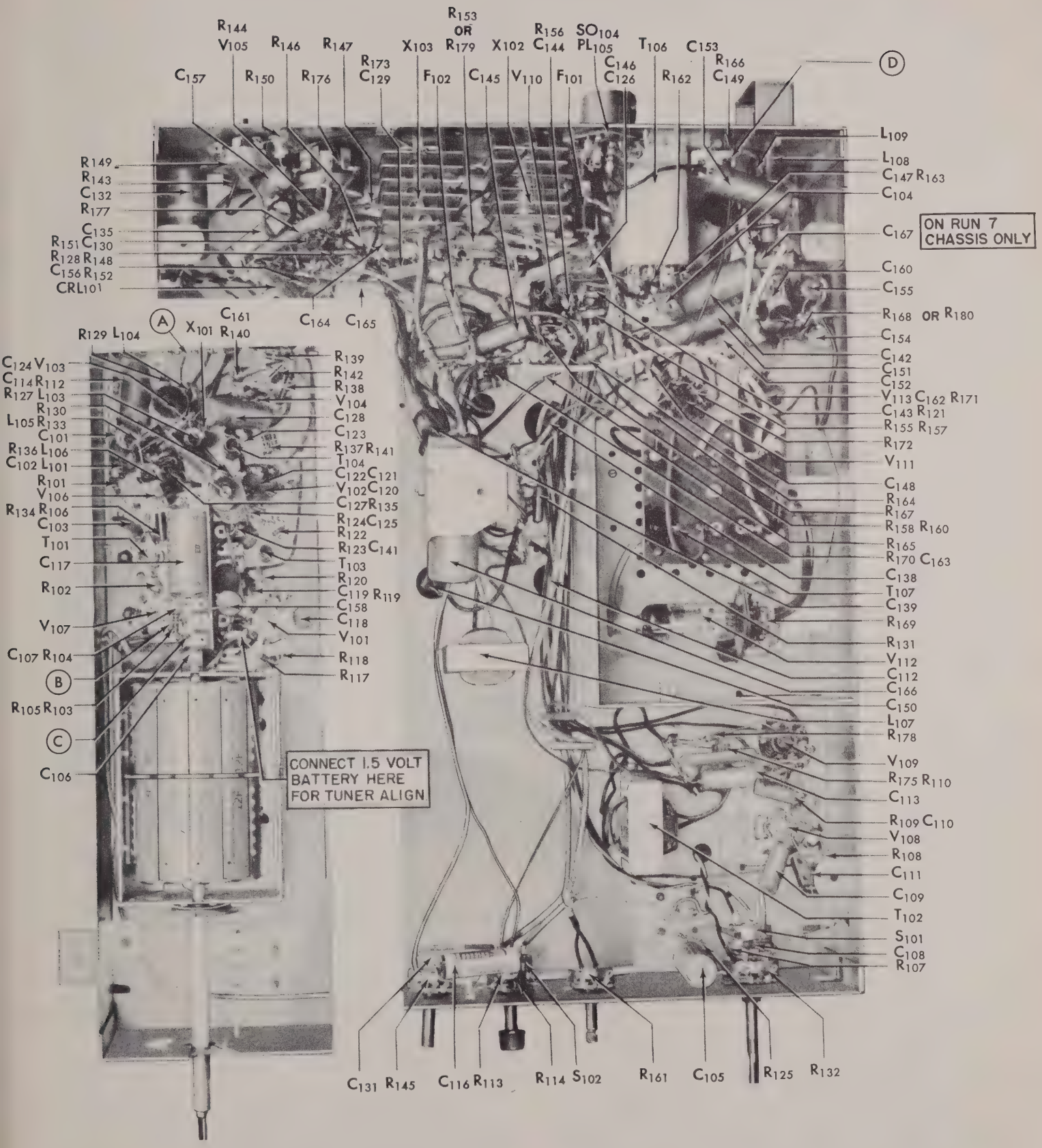


FIG. 18. TOP CHASSIS VIEW, COMPONENT LOCATION



92X1373

FIG. 19. BOTTOM CHASSIS VIEW, COMPONENT LOCATION FOR RUNS 1, 2 & 3



92X1400

FIG. 20. BOTTOM CHASSIS VIEW, COMPONENT LOCATION FOR RUNS 4, 5, 6,& 7

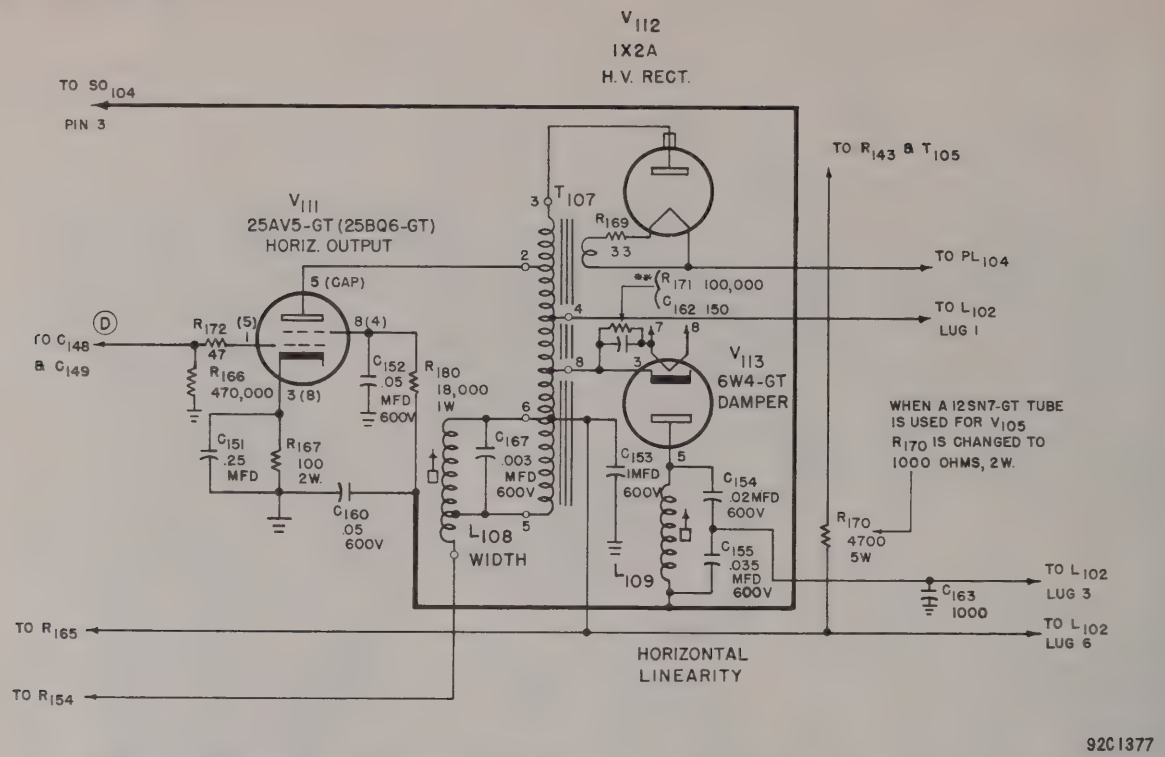


FIG. 21. HORIZONTAL DEFLECTION CIRCUIT MODIFICATIONS FOR 21C123 PM FOCUS DEVICE (RUN 7 CHASSIS ONLY)

RUN 7 PRODUCTION CHANGES

1. Coil L-110 and resistor R-172 are used on all Run 7 chassis.
2. Resistor R-168 replaced by resistor R-180 (18,000 ohms, 1 watt). See Fig. 21.
3. Cápacitor C-167 (.003 mfd., 600 V.) added across width coil L-108 terminals which connect to terminals 5 and 6 of the horizontal output transformer T-107. See Fig. 21. for electrical location and Fig. 20. for the physical location of C-167.
4. The only focus assembly used on the Run 7 chassis was the 21C123 PM unit.
5. The balance of the Run 7 circuit is the same as that shown for Runs 4, 5, and 6 with PM focus device. Fig. 27.

CABINET PARTS

(All Models and Runs)

Reference Symbol	Description	Hallicrafters Part Number
	Antenna, Silver Vortex built-in	57D147
	Cabinet (model 805)	78F561
	Cabinet (model 806)	78F562
	Cabinet (model 810)	78F551
	Cabinet (model 810C)	78F596
	Cabinet back (models 805, 806, & 810)	8E1173
	Cabinet back (model 810C)	8E1258
	Escutcheon assembly, front controls (models 805, 810 & 810C)	7B230
	Escutcheon assembly, front controls (model 806)	7B231
	Escutcheon mask, picture tube (models 805 and 806) 7D170 or	7D217
	Escutcheon mask, picture tube (models 810 and 810C)	7D217
	Escutcheon, picture tube	7D196
	Glass, safety	22D292
	Knob, OFF/ON-VOLUME (models 805, 810 and 810C)	15C297
	Knob, OFF/ON-VOLUME (model 806)	15C298
	Knob, FINE TUNING (models 805, 810, and 810C)	15A299
	Knob, FINE TUNING (model 806)	15A300
	Knob, CONTRAST (models 805, 810 and 810C)	15D265
	Knob, CONTRAST (model 806)	15A274
	Knob, PHONO/TV-BRIGHTNESS (models 805, 810 and 810C)	15A284
	Knob, PHONO/TV-BRIGHTNESS (model 806)	15A285
	Knob, CHANNEL SELECTOR (models 805, 810 and 810C)	15D293
	Knob, CHANNEL SELECTOR (model 806)	15D294
PL-101	Line cord and plugs	87A1668
PL-102	Plug, safety interlock connector (part of PL-101)	
PL-103	Plug, speaker	10A372
	Shield, picture tube socket (mtg. on cabinet back)	69C358
LS-101	Speaker, 8 inch PM (models 805 and 806)	85C104
LS-101	Speaker, 5 inch PM (models 810 and 810C)	85C103

SERVICE PARTS LIST FOR RUN 1 CHASSIS ONLY

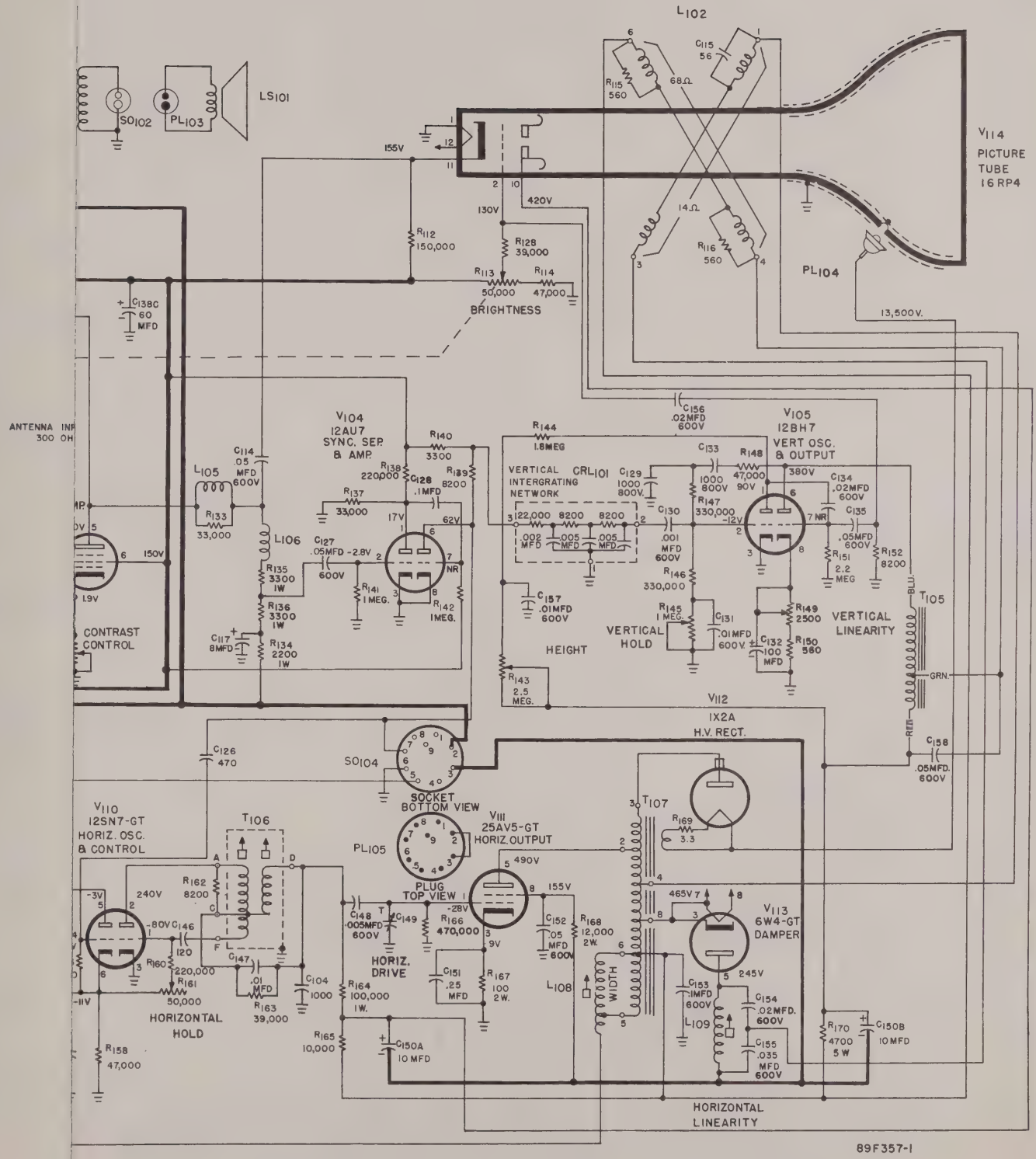
Reference Symbol	Description	Hallicrafters Part Number
	TRANSFORMERS AND COILS	
T-101	Transformer, ratio detector	50B473
T-102	Transformer, audio output	55A157
T-103	Transformer, 2nd i-f amplifier	51A1288
T-104	Transformer, 3rd i-f amplifier	51A1289
T-105	Transformer, vertical output	55A166
T-106	Transformer, horizontal oscillator	51B1242
T-107	Transformer, horizontal output	55C156
T-108	Transformer, power	52C212
L-101	Coil, 4.5 MC SOUND ADJ.	50B474
L-102	Deflection yoke	53C203
L-103	Coil, video peaking	51A1257
L-104	Coil, video peaking	51A1286
L-105	Coil, video peaking	51A1285
L-106	Coil, video peaking	51A1284
L-107	Choke, filter	56B117
L-108	Coil, WIDTH control	51B1277
L-109	Coil, HORIZONTAL LINEARITY	51B1335
	CAPACITORS	
C-101	2.2 mmf. 500 V., ceramic	47A160-4
C-102	47 mmf. 500 V., ceramic (part of L-101)	
C-103	2x4000 mmf., ceramic disc	47A218
C-104	1000 mmf. 500 V., mica	47X20B102K
C-106	5 mfd. 50 V., electrolytic	45B175
C-107	330 mmf. 500 V., ceramic	47B20331K5
C-108,144	1000 mmf. 500 V., ceramic	47B20A102M5
C-109	.01 mfd. 200 V., tubular paper	46AU103J
C-110,113, 131,157	.01 mfd. 600 V., tubular paper	46AY103J
C-111	220 mmf. 500 V., mica	47X20B221K
C-112	60 mfd. 150 V., electrolytic	45B180
C-114,127, 135,152, 158	.05 mfd. 600 V., tubular paper	46AY503J
C-115	56 mmf. 500 V., mica (part of L-102)	
C-116,118, 119,120, 121,122, 140,141, 159	5000 mmf. ceramic disc	45A168
C-117	8 mfd. 450 V., electrolytic	45B184
C-123	5 mmf. 500 V., ceramic	47B20050K5
C-124,125	.5 mfd. 25 V., tubular paper	46A177
C-126	470 mmf. 500 V., ceramic	47B20A471M5
C-128	.1 mfd. 200 V., tubular paper	46AU104J
C-129,133	1000 mmf. 800 V., mica	47A227
C-130	.001 mfd. 600 V., tubular	46AZ102J
C-132	100 mfd. 50 V., electrolytic	45A105
C-134,154, 156	.02 mfd. 600 V., tubular paper	46AY203J
C-136,137	.01 mfd. 600 V., molded tubular	46BR103L6
C-138	3x60 mfd. 300 V., electrolytic	45B179
C-139	80 mfd. 150 V., electrolytic	45B178

Reference Symbol	Description	Hallicrafters Part Number
	CAPACITORS (Cont.)	
C-142	.5 mfd. 200 V., tubular paper	46AT504J
C-143,148	.005 mfd. 600 V., tubular paper	46AY502J
C-145	.05 mfd. 200 V., tubular paper	46AU503J
C-146	120 mmf. 500 V., mica	47X20B121K
C-147	.01 mfd. 400 V., molded tubular paper	46BR103E4
C-149	Trimmer, HORIZONTAL DRIVE control	44A361
C-150	2x10 mfd. 450 V., electrolytic	45B182
C-151	.25 mfd. 200 V., tubular paper	46AT254J
C-153	.1 mfd. 600 V., tubular paper	46AY104J
C-155	.035 mfd. 600 V., tubular paper	46AY353J
CRL-101	Vertical integrating network	49B015
	RESISTORS	
R-101,120, 124	150 ohms 1/2 watt, carbon	23X20X151K
R-102	270 ohms 1/2 watt, carbon	23X20X271K
R-103,104	10,000 ohms 1/2 watt, carbon	23X20X103J
R-105,117, 137	33,000 ohms 1/2 watt, carbon	23X20X333K
R-106,126, 139,152, 162	8200 ohms 1/2 watt, carbon	23X20X822K
R-107,132	1 megohm/2500 ohms; OFF-ON-VOLUME/CONTRAST control	25B902
R-108	6.8 megohms 1/2 watt, carbon	23X20X685M
R-109	390,000 ohms 1/2 watt, carbon	23X20X394K
R-110	390,000 ohms 1/2 watt, carbon	23X20X394J
R-111	270,000 ohms 1/2 watt, carbon	23X20X274J
R-112	150,000 ohms 1/2 watt, carbon	23X20X154K
R-113	50,000 ohms; PHONO/TV-BRIGHTNESS control	25A915
R-114	47,000 ohms 1/2 watt, carbon	23X20X473M
R-115,116, 150	560 ohms 1/2 watt, carbon	23X20X561K
R-118	47 ohms 1/2 watt, carbon	23X20X470K
R-121,125	220 ohms 1/2 watt, carbon	23X20X221K
R-122	12,000 ohms 1/2 watt, carbon	23X20X123K
R-123	100 ohms 1/2 watt, carbon	23X20X101K
R-127	15,000 ohms 1/2 watt, carbon (part of L-103)	
R-128	39,000 ohms 1/2 watt, carbon	23X20X393M
R-129,138, 160	220,000 ohms 1/2 watt, carbon	23X20X224K
R-130,141, 142	1 megohm 1/2 watt, carbon	23X20X105M
R-133	33,000 ohms 1/2 watt, carbon (part of L-105)	
R-134	2200 ohms 1 watt, carbon	23X30X222M
R-135,136	3300 ohms 1 watt, carbon	23X30X332K
R-140,157	3300 ohms 1/2 watt, carbon	23X20X332K
R-143	2.5 megohms; HEIGHT control	25B711
R-144	1.8 megohms 1/2 watt, carbon	23X20X185K
R-145	1 megohm; VERTICAL HOLD control	25A900
R-146,147	330,000 ohms 1/2 watt, carbon	23X20X334K
R-148,158	47,000 ohms 1/2 watt, carbon	23X20X473K
R-149	2500 ohms; VERTICAL LINEARITY control	25B899
R-151	2.2 megohms 1/2 watt, carbon	23X20X225M
R-153	20 ohms 10 watts, WW	24A927
R-154	22,000 ohms 1/2 watt, carbon	23X20X223K

SERVICE PARTS LIST FOR RUN 1 CHASSIS (Cont.)

Reference Symbol	Description	Hallicrafters Part Number
	RESISTORS (Cont.)	
R-155,163	39,000 ohms 1/2 watt, carbon	23X20X393K
R-156	100,000 ohms 1/2 watt carbon	23X20X104K
R-161	50,000 ohms; HORIZONTAL HOLD control	25A901
R-164	100,000 ohms 1 watt, carbon	23X30X104K
R-165	10,000 ohms 1/2 watt, carbon	23X20X103K
R-166	470,000 ohms 1/2 watt, carbon	23X20X474M
R-167	100 ohms 2 watts, carbon	23X40X101K
R-168	12,000 ohms 2 watts, carbon	23X40X123K
R-169	3.3 ohms 1/2 watt, carbon	23X20X033K
R-170	4700 ohms 5 watts, WW	24BF472E
	TUBES AND RECTIFIERS	
V-1	Type 6AG5: r-f amplfier	90X6AG5
V-2	Type 6J6: oscillator/mixer	90X6J6
V-101,102, 103	Type 6CB6: 1st and 2nd i-f amplifiers; video amplifier	90X6CB6
V-104	Type 12AU7: sync. separator and amplifier	90X12AU7
V-105	Type 12BH7: vertical oscillator and output	90X12BH7
V-106	Type 6AU6: audio i-f amp.	90X6AU6
V-107	Type 6AL5: FM detector	90X6AL5
V-108	Type 6AV6: audio amp. or Type 6SQ7: audio amp.	90X6AV6 90X6SQ7
V-109	Type 25L6-GT: audio output	90X25L6-GT
V-110	Type 12SN7-GT: horizontal oscillator and control	90X12SN7-GT
V-111	Type 25AV5-GT: horizontal output	90X25AV5-GT
V-112	Type1X2A: high voltage rectifier	90X1X2A
V-113	Type 6W4-GT: damper	90X6W4-GT
V-114	Type 16RP4: picture tube	90X16RP4
X-101	Crystal diode, 1N60	19B1246
X-102,103	Selenium rectifier	27A155
	MISCELLANEOUS ELECTRICAL PARTS	
F-101	Fuse, 1/4 amp. 250 V.	39A353
F-102	Fuse, 1.5 amp. 250 V.	39A354
	Fuse holder	6A053
	Ion trap	21A120
PL-101	Line cord and plug PL-102	87A1668
S-101	Switch, OFF-ON (part of R-107)	
S-102	Switch, PHONO-TV (part of R-113)	
	Tuning unit assembly	1D1049
	CHASSIS PARTS	
	Bracket, color plug retainer	67A1414
	Bracket, deflection yoke and focus device mtg. (bottom)	67D1384
	Bracket, deflection yoke and focus device mtg. (upper)	67D1348
	Bracket, deflection yoke mtg. (mounted on 67D1348)	67C1244
	Bracket, mounting for TS-101 and SO-101	67C1258
	Bracket, picture tube mtg.; front right	67C1313
	Bracket, picture tube mtg.; front left	67C1312
	Collar, picture tube mtg. (mounted in front of defl. yoke)	16C202
	Clamp, picture tube mtg.	76A628
	Cushion, picture tube mtg.; sponge rubber	16A163
	Focus device assembly	21C114
	Lever, centering control	74B338
PL-104	Plug, 16RP4 anode	10A377
PL-105	Plug, 9 prong, (color adapter)	10A299
	Shell, plug (for PL-105)	69A369
SO-101	Socket, a-c power	10A286
	Socket, miniature 9 pin: molded mica	6A360
	Socket, miniature 9 pin; wafer (tube V-104)	6A334
	Socket, miniature 7 pin	6A340
SO-104	Socket, 9 pin (color adapter)	6A370
	Socket, 9 pin wafer (tube V-112)	6A361
	Socket, octal; molded	6B296
SO-103	Socket, phono input	36A041
	Socket, picture tube	6A362
SO-102	Socket, speaker	10A373
	Spring, picture tube ground	75B177
TS-101	Terminal strip, antenna	88A020

IG. 22. SCHEMATIC DIAGRAM FOR RUN I CHASSIS ONLY.



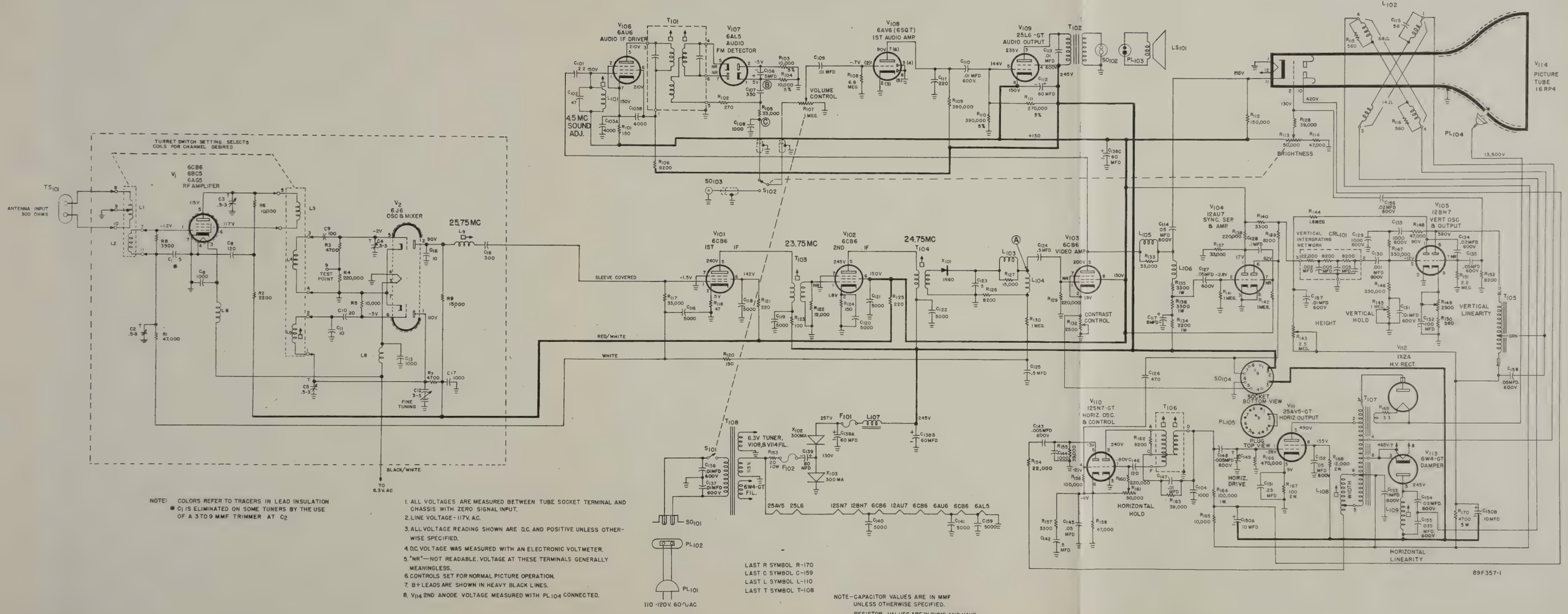
SERVICE PARTS LIST FOR RUN 1 CHASSIS (Cont.)

Reference Symbol	Description	Hallicrafters Part Number
	RESISTORS (Cont.)	
R-155,163	39,000 ohms 1/2 watt, carbon	23X20X393K
R-156	100,000 ohms 1/2 watt carbon	23X20X104K
R-161	50,000 ohms; HORIZONTAL HOLD control	25A901
R-164	100,000 ohms 1 watt, carbon	23X30X104K
R-165	10,000 ohms 1/2 watt, carbon	23X20X103K
R-166	470,000 ohms 1/2 watt, carbon	23X20X474M
R-167	100 ohms 2 watts, carbon	23X40X101K
R-168	12,000 ohms 2 watts, carbon	23X40X123K
R-169	3.3 ohms 1/2 watt, carbon	23X20X033K
R-170	4700 ohms 5 watts, WW	24BF472E
	TUBES AND RECTIFIERS	
V-1	Type 6AG5: r-f amplfier	90X6AG5
V-2	Type 6J6: oscillator/mixer	90X6J6
V-101,102, 103	Type 6CB6: 1st and 2nd i-f amplifiers; video amplifier	90X6CB6
V-104	Type 12AU7: sync. separator and amplifier	90X12AU7
V-105	Type 12BH7: vertical oscillator and output	90X12BH7
V-106	Type 6AU6: audio i-f amp.	90X6AU6
V-107	Type 6AL5: FM detector	90X6AL5
V-108	Type 6AV6: audio amp. or Type 6SQ7: audio amp.	90X6AV6 90X6SQ7
V-109	Type 25L6-GT: audio output	90X25L6-GT
V-110	Type 12SN7-GT: horizontal oscillator and control	90X12SN7-GT
V-111	Type 25AV5-GT: horizontal output	90X25AV5-GT
V-112	Type1X2A: high voltage rectifier	90X1X2A
V-113	Type 6W4-GT: damper	90X6W4-GT
V-114	Type 16RP4: picture tube	90X16RP4
X-101	Crystal diode, 1N60	19B1246
X-102,103	Selenium rectifier	27A155
	MISCELLANEOUS ELECTRICAL PARTS	
F-101	Fuse, 1/4 amp. 250 V.	39A353
F-102	Fuse, 1.5 amp. 250 V.	39A354
	Fuse holder	6A053
	Ion trap	21A120
PL-101	Line cord and plug PL-102	87A1668

Reference Symbol	Description	Hallicrafters Part Number
	MISCELLANEOUS ELECTRICAL PARTS (Cont.)	
S-101	Switch, OFF-ON (part of R-107)	
S-102	Switch, PHONO-TV (part of R-113)	
	Tuning unit assembly	1D1049
	CHASSIS PARTS	
	Bracket, color plug retainer	67A1414
	Bracket, deflection yoke and focus device mtg. (bottom)	67D1384
	Bracket, deflection yoke and focus device mtg. (upper)	67D1348
	Bracket, deflection yoke mtg. (mounted on 67D1348)	67C1244
	Bracket, mounting for TS-101 and SO-101	67C1258
	Bracket, picture tube mtg.; front right	67C1313
	Bracket, picture tube mtg.; front left	67C1312
	Collar, picture tube mtg. (mounted in front of defl. yoke)	16C202
	Clamp, picture tube mtg.	76A628
	Cushion, picture tube mtg.; sponge rubber	16A163
	Focus device assembly	21C114
	Lever, centering control	74B338
PL-104	Plug, 16RP4 anode	10A377
PL-105	Plug, 9 prong, (color adapter)	10A299
	Shell, plug (for PL-105)	69A369
SO-101	Socket, a-c power	10A286
	Socket, miniature 9 pin: molded mica	6A360
	Socket, miniature 9 pin; wafer (tube V-104)	6A334
	Socket, miniature 7 pin	6A340
SO-104	Socket, 9 pin (color adapter)	6A370
	Socket, 9 pin wafer (tube V-112)	6A361
	Socket, octal; molded	6B296
SO-103	Socket, phono input	36A041
	Socket, picture tube	6A362
SO-102	Socket, speaker	10A373
	Spring, picture tube ground	75B177
TS-101	Terminal strip, antenna	88A020

VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

FIG. 22. SCHEMATIC DIAGRAM FOR RUN I CHASSIS ONLY.

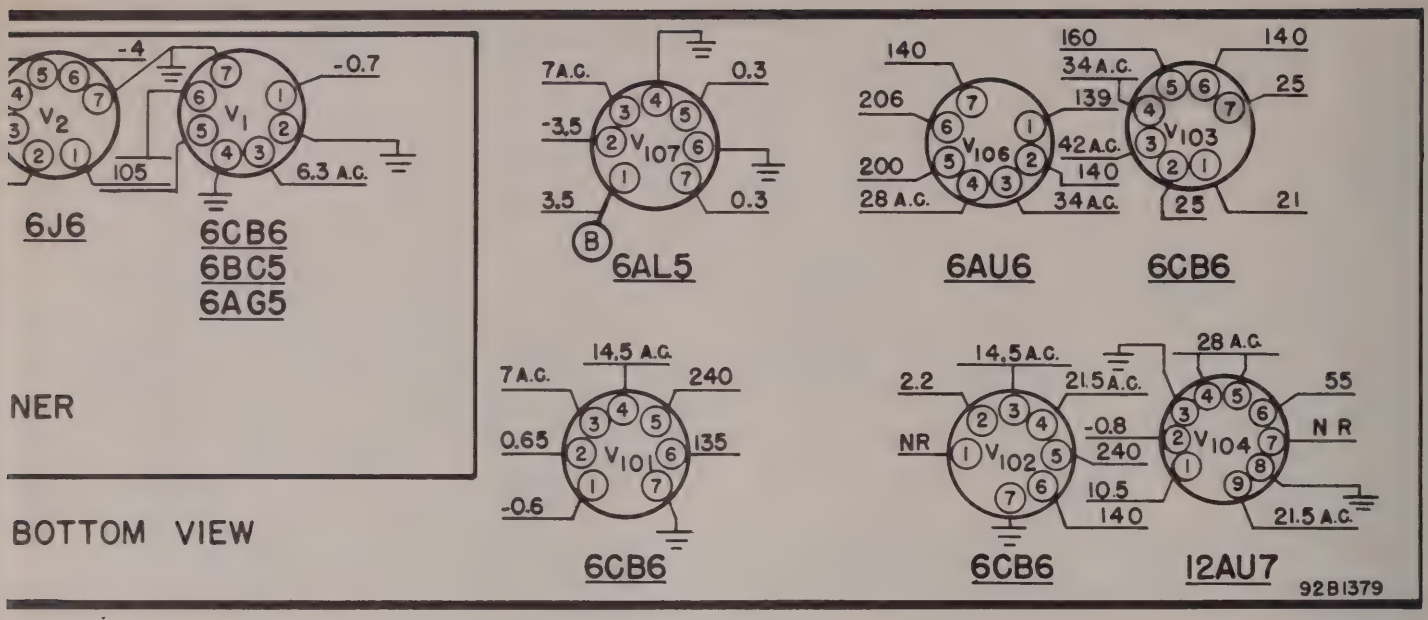


NOTE: COLORS REFER TO TRACERS IN LEAD INSULATION
* C1 IS ELIMINATED ON SOME TUNERS BY THE USE OF A 3TO9 MMF TRIMMER AT C2

1. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINAL AND CHASSIS WITH ZERO SIGNAL INPUT.
2. LINE VOLTAGE - 117V. AC.
3. ALL VOLTAGE READING SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.
4. D.C. VOLTAGE WAS MEASURED WITH AN ELECTRONIC VOLTMETER.
5. "NR" — NOT READABLE. VOLTAGE AT THESE TERMINALS GENERALLY MEANINGLESS.
6. CONTROLS SET FOR NORMAL PICTURE OPERATION.
7. B+ LEADS ARE SHOWN IN HEAVY BLACK LINES.
8. V114 2ND ANODE VOLTAGE MEASURED WITH PL104 CONNECTED.

LAST R SYMBOL R-170
LAST C SYMBOL C-159
LAST L SYMBOL L-110
LAST T SYMBOL T-108

NOTE—CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES ARE IN OHMS AND HAVE 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.



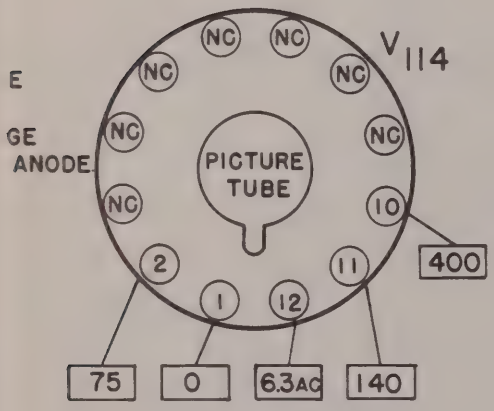


FIG. 24. VOLTAGE CHART FOR TUNER-IF ASSEMBLY AND PICTURE TUBE (V-114).
RUNS 2, 3, 4, 5 & 6 WITH PM FOCUS DEVICE

, VOLTAGES ARE MEASURED BETWEEN THE TUBE SOCKET TERMINAL AND THE CHASSIS WITH ZERO NAL INPUT AND THE ANTENNA TERMINALS SHORTED.

E VOLTAGE SET AT 117 VOLTS.

, VOLTAGE READINGS SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.

, D. C. VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER (VTVM).

" INDICATES THAT THE VOLTAGE IS NOT READABLE. VOLTAGE AT THESE TERMINALS IS USUALLY ANINGLESS.

TAGES ARE MEASURED WITH REAR CONTROLS SET FOR NORMAL PICTURE OPERATION AND FRONT TROLS IN THE EXTREME COUNTERCLOCKWISE POSITION.

SERVICE PARTS LIST FOR RUNS 2, 3, 4, 5,6 & 7

Reference Symbol	Description	Hallicrafters Part Number
	TRANSFORMERS AND COILS	
T-101	Transformer, ratio detector	50B473
T-102	Transformer, audio output	55A157
T-103	Transformer, 2nd i-f amplifier	51A1288
T-104	Transformer, 3rd i-f amplifier	51A1289
T-105	Transformer, vertical output	55A166 or 55B128
T-106	Transformer, horizontal osc.	51B1242
T-107	Transformer, horizontal output (for 25AV5GT)	55C156
T-107	Transformer, horizontal output (for 25BQ6GT)	55C171
T-108	Transformer, power	52C212
L-101	Coil, 4.5 MC SOUND ADJ.	50B474
L-102	Deflection yoke	53C203 or 53C217
L-103	Coil, video peaking (wound on R-127)	51A1257
L-104	Coil, video peaking	51A1286
L-105	Coil, video peaking (wound on R-133)	51A1285
L-106	Coil, video peaking	51A1284
L-107	Choke, filter	56B117
L-108	Coil, WIDTH control	51B1277
L-109	Coil, HORIZONTAL LINEARITY	51B1335
L-110	Choke, r-f (wound on R-117)	53A219
L-111	Coil, FOCUS; EM-PM	51B1337
	CAPACITORS	
C-101	2.2 mmf. 500 V., ceramic	47A160-4
C-102	47 mmf. 500 V., ceramic (part of L-101)	
C-103A & B	Dual 4000 mmf., ceramic disc	47A218
C-104	1000 mmf., 10%, 500 V., mica	47X20B102K
C-105	100 mfd. 10 V., electrolytic	45B170 or 45B185
C-106	5 mfd. 50 V., electrolytic	45B175
C-107,161	330 mmf. 500 V., ceramic	47B20331K5
C-108,144	1000 mmf. 500 V., ceramic	47B20A102M5
C-109	.01 mfd. 200 V., tubular paper	46AU103J
C-110,113, 131,157	.01 mfd. 600 V., tubular paper	46AY103J
C-111	220 mmf. 500 V., mica	47X20B221K
C-112	60 mfd. 150 V., electrolytic	45B180
C-114,116, 127,134, 135,152, 158,160	.05 mfd. 600 V., tubular paper	46AY503J
C-115	56 mmf. 500 V., mica (part of L-102)	47X20A560M
C-117	8 mfd. 450 V., electrolytic	45B184
C-118,119, 120,121, 122,141	5000 mmf. ceramic disc	47A168
C-123	5 mmf. 500 V., ceramic	47B20050K5
C-124,125	.5 mfd. 25 V., tubular paper	46A177
C-126	390 mmf. 500 V., ceramic	47B20A391M5
C-128	.1 mfd. 200 V., tubular paper	46AU104J
C-129	1000 mmf. 800 V., mica	47A227
C-130	.001 mfd. 600 V., tubular paper	46AZ102J
C-132	100 mfd. 50 V., electrolytic	45A105
C-136,137	.01 mfd. 600V., molded tubular	46BR103L6
C-138A, B, & C	Triple 60 mfd. 300 V., electrolytic	45B179
C-139,166	80 mfd. 150 V., electrolytic for EM-PM focus	45B178
	80 mfd. 150 V., electrolytic for PM focus	45B187
	CAPACITORS (Cont.)	
C-142	.5 mfd. 200 V., tubular paper	46AT504J
C-143,148	.005 mfd. 600 V., tubular paper	46AY502J
C-145	.05 mfd. 200 V., tubular paper	46AU503J
C-146,162	150 mmf. 500 V., mica	47X20B151K
C-147	.01 mfd. 400 V., molded tubular	47A224 or 46BR103E4
C-149	Trimmer, HORIZONTAL DRIVE control	44A361
C-150A & B	Dual 10 mfd. 450 V., electrolytic	45B182
C-151	.25 mfd. 200 V., tubular paper	46AT254J
C-153	.1 mfd. 600 V., tubular paper	46AY104J
C-154,156	.02 mfd. 600 V., tubular paper	46AY203J
C-155	.035 mfd. 600 V., tubular paper	46AY353J
C-163	1000 mmf. 500 V., ceramic	47B20A102N5
C-164,165	.005 mfd. 10%, 600 V., tubular paper	46AY502E
C-167	.003 mfd. 600 V., tubular paper	46AY302J
	RESISTORS	
R-101,124	150 ohms 1/2 watt, carbon	23X20X151K
R-102	270 ohms 1/2 watt, carbon	23X20X271K
R-103,104	10,000 ohms 1/2 watt, carbon	23X20X103J
R-105,137	33,000 ohms 1/2 watt, carbon	23X20X333K
R-106,126, 139,152, 162	8200 ohms 1/2 watt, carbon	23X20X822K
R-107,132	1 megohm/2500 ohms; OFF-ON-VOLUME/CONTRAST control	25B902
R-108	6.8 megohms 1/2 watt, carbon	23X20X685M
R-109	390,000 ohms 1/2 watt, carbon	23X20X394K
R-110	390,000 ohms 1/2 watt, carbon	23X20X394J
R-111	270,000 ohms 1/2 watt, carbon	23X20X274J
R-112	150,000 ohms 1/2 watt, carbon	23X20X154K
R-113	50,000 ohms; PHONO/TV-BRIGHTNESS control	25A915
R-114	47,000 ohms 1/2 watt, carbon	23X20X473M
R-115,116, 150	560 ohms 1/2 watt, carbon	23X20X561K
R-117	82,000 ohms 1/2 watt, carbon	23X20X823K
R-118	47 ohms 1/2 watt, carbon	23X20X470K
R-119,120, 123	100 ohms 1/2 watt, carbon	23X20X101K
R-121,171	100,000 ohms 1/2 watt, carbon	23X20X104M
R-122,165	10,000 ohms 1/2 watt, carbon	23X20X103K
R-125	150 ohms 1/2 watt, carbon	23X20X151M
R-127	15,000 ohms 1/2 watt, carbon (part of L-103)	
R-128	39,000 ohms 1/2 watt, carbon	23X20X393M
R-129,160	220,000 ohms 1/2 watt, carbon	23X20X224K
R-130,142	1 megohm 1/2 watt, carbon	23X20X105M
R-131	15 ohms 1 watt, carbon	23X30X150M
R-133	33,000 ohms 1/2 watt, carbon (part of L-105)	
R-134	2200 ohms 1 watt, carbon	23X30X222M
R-135,136	3300 ohms 1 watt, carbon	23X30X332K
R-138,146	330,000 ohms 1/2 watt, carbon	23X20X334K
R-140	3300 ohms 1/2 watt, carbon	23X20X332K
R-141	470,000 ohms 1/2 watt, carbon	23X20X474K
R-143	2.5 megohms; HEIGHT control	25B711
R-144,151	2.2 megohms 1/2 watt, carbon	23X20X225M
R-145	1 megohm; VERTICAL HOLD control	25A900

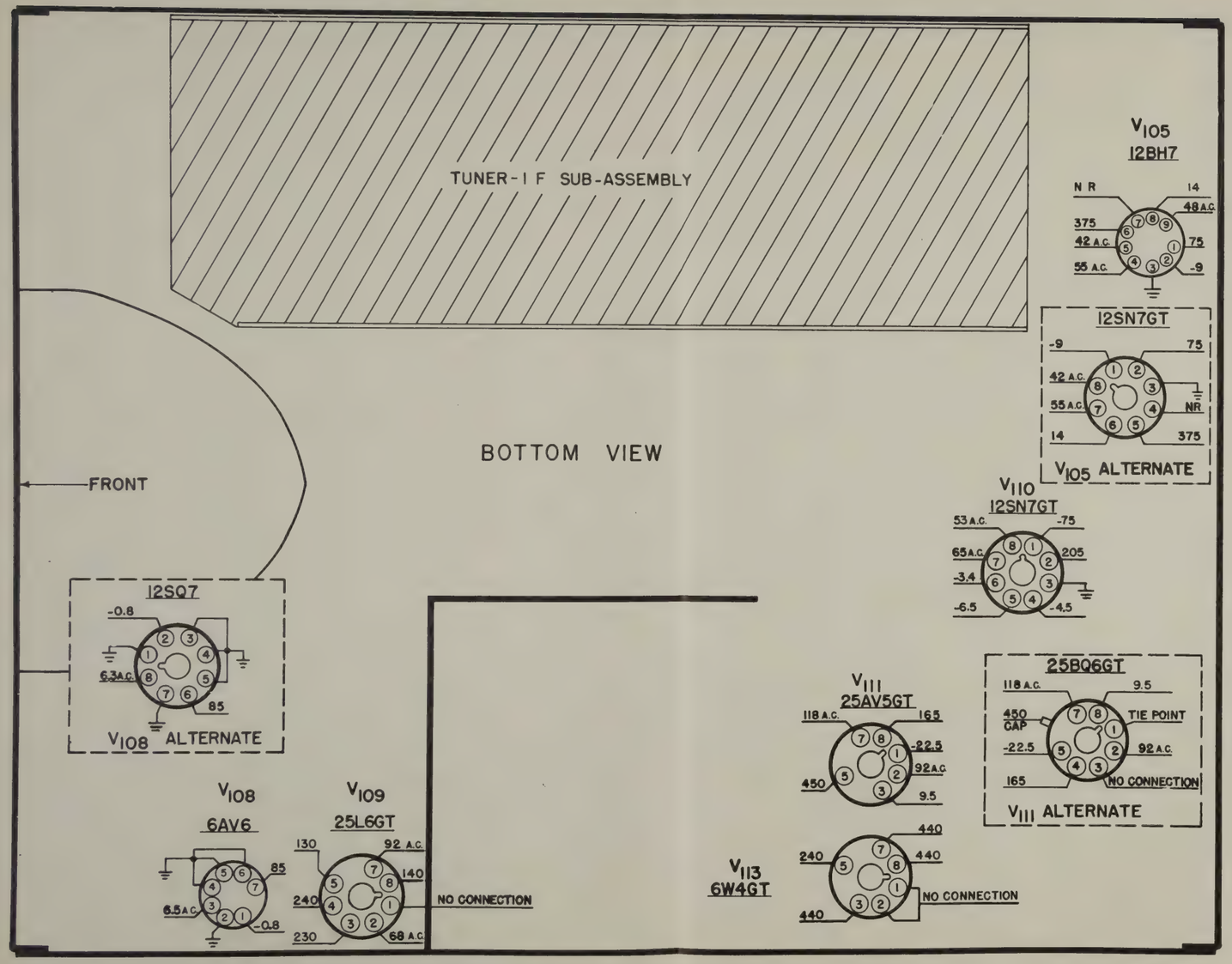
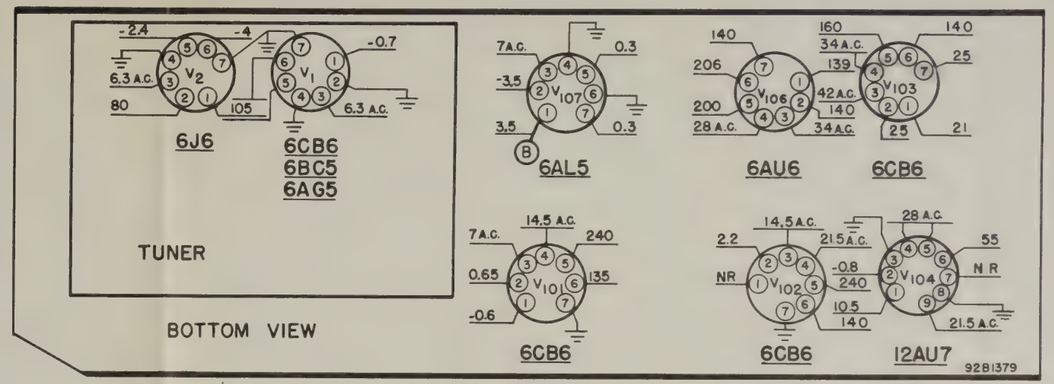
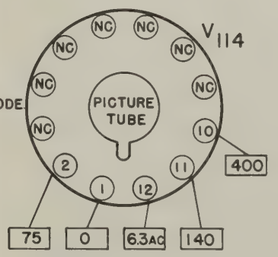


FIG. 23. VOLTAGE CHART FOR MAIN CHASSIS. RUNS 1, 2, 3, 4, 5,& 6 WITH PM FOCUS DEVICE

92CI378



CAUTION —
SEE TEXT BEFORE ATTEMPTING TO MEASURE VOLTAGE ON THE SECOND ANODE



92 A1382

FIG. 24. VOLTAGE CHART FOR TUNER-IF ASSEMBLY AND PICTURE TUBE (V-114). RUNS 2, 3, 4, 5 & 6 WITH PM FOCUS DEVICE

1. ALL VOLTAGES ARE MEASURED BETWEEN THE TUBE SOCKET TERMINAL AND THE CHASSIS WITH ZERO SIGNAL INPUT AND THE ANTENNA TERMINALS SHORTED.
2. LINE VOLTAGE SET AT 117 VOLTS.
3. ALL VOLTAGE READINGS SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.
4. ALL D. C. VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER (VTVM).
5. "NR" INDICATES THAT THE VOLTAGE IS NOT READABLE. VOLTAGE AT THESE TERMINALS IS USUALLY MEANINGLESS.
6. VOLTAGES ARE MEASURED WITH REAR CONTROLS SET FOR NORMAL PICTURE OPERATION AND FRONT CONTROLS IN THE EXTREME COUNTERCLOCKWISE POSITION.

SERVICE PARTS LIST FOR RUNS 2, 3, 4, 5,6 & 7

Reference Symbol	Description	Hallicrafters Part Number
	TRANSFORMERS AND COILS	
T-101	Transformer, ratio detector	50B473
T-102	Transformer, audio output	55A157
T-103	Transformer, 2nd i-f amplifier	51A1288
T-104	Transformer, 3rd i-f amplifier	51A1289
T-105	Transformer, vertical output	55A166 or 55B128
T-106	Transformer, horizontal osc.	51B1242
T-107	Transformer, horizontal output (for 25AV5GT)	55C156
T-107	Transformer, horizontal output (for 25BQ6GT)	55C171
T-108	Transformer, power	52C212
L-101	Coil, 4.5 MC SOUND ADJ.	50B474
L-102	Deflection yoke	53C203 or 53C217
L-103	Coil, video peaking (wound on R-127)	51A1257
L-104	Coil, video peaking	51A1286
L-105	Coil, video peaking (wound on R-133)	51A1285
L-106	Coil, video peaking	51A1284
L-107	Choke, filter	56B117
L-108	Coil, WIDTH control	51B1277
L-109	Coil, HORIZONTAL LINEARITY	51B1335
L-110	Choke, r-f (wound on R-117)	53A219
L-111	Coil, FOCUS; EM-PM	51B1337
	CAPACITORS	
C-101	2.2 mmf. 500 V., ceramic	47A160-4
C-102	47 mmf. 500 V., ceramic (part of L-101)	
C-103A & B	Dual 4000 mmf., ceramic disc	47A218
C-104	1000 mmf., 10%, 500 V., mica	47X20B102K
C-105	100 mfd. 10 V., electrolytic	45B170 or 45B185
C-106	5 mfd. 50 V., electrolytic	45B175
C-107,161	330 mmf. 500 V., ceramic	47B20331K5
C-108,144	1000 mmf. 500 V., ceramic	47B20A102M5
C-109	.01 mfd. 200 V., tubular paper	46AU103J
C-110,113, 131,157	.01 mfd. 600 V., tubular paper	46AY103J
C-111	220 mmf. 500 V., mica	47X20B221K
C-112	60 mfd. 150 V., electrolytic	45B180
C-114,116, 127,134, 135,152, 158,160	.05 mfd. 600 V., tubular paper	46AY503J
C-115	56 mmf. 500 V., mica (part of L-102)	47X20A560M
C-117	8 mfd. 450 V., electrolytic	45B184
C-118,119, 120,121, 122,141	5000 mmf. ceramic disc	47A168
C-123	5 mmf. 500 V., ceramic	47B20050K5
C-124,125	.5 mfd. 25 V., tubular paper	46A177
C-126	390 mmf. 500 V., ceramic	47B20A391M5
C-128	.1 mfd. 200 V., tubular paper	46AU104J
C-129	1000 mmf. 800 V., mica	47A227
C-130	.001 mfd. 600 V., tubular paper	46AZ102J
C-132	100 mfd. 50 V., electrolytic	45A105
C-136,137	.01 mfd. 600V., molded tubular	46BR103L6
C-138A, B, & C	Triple 60 mfd. 300 V., electrolytic	45B179
C-139,166	80 mfd. 150 V., electrolytic for EM-PM focus	45B178
	80 mfd. 150 V., electrolytic for PM focus	45B187

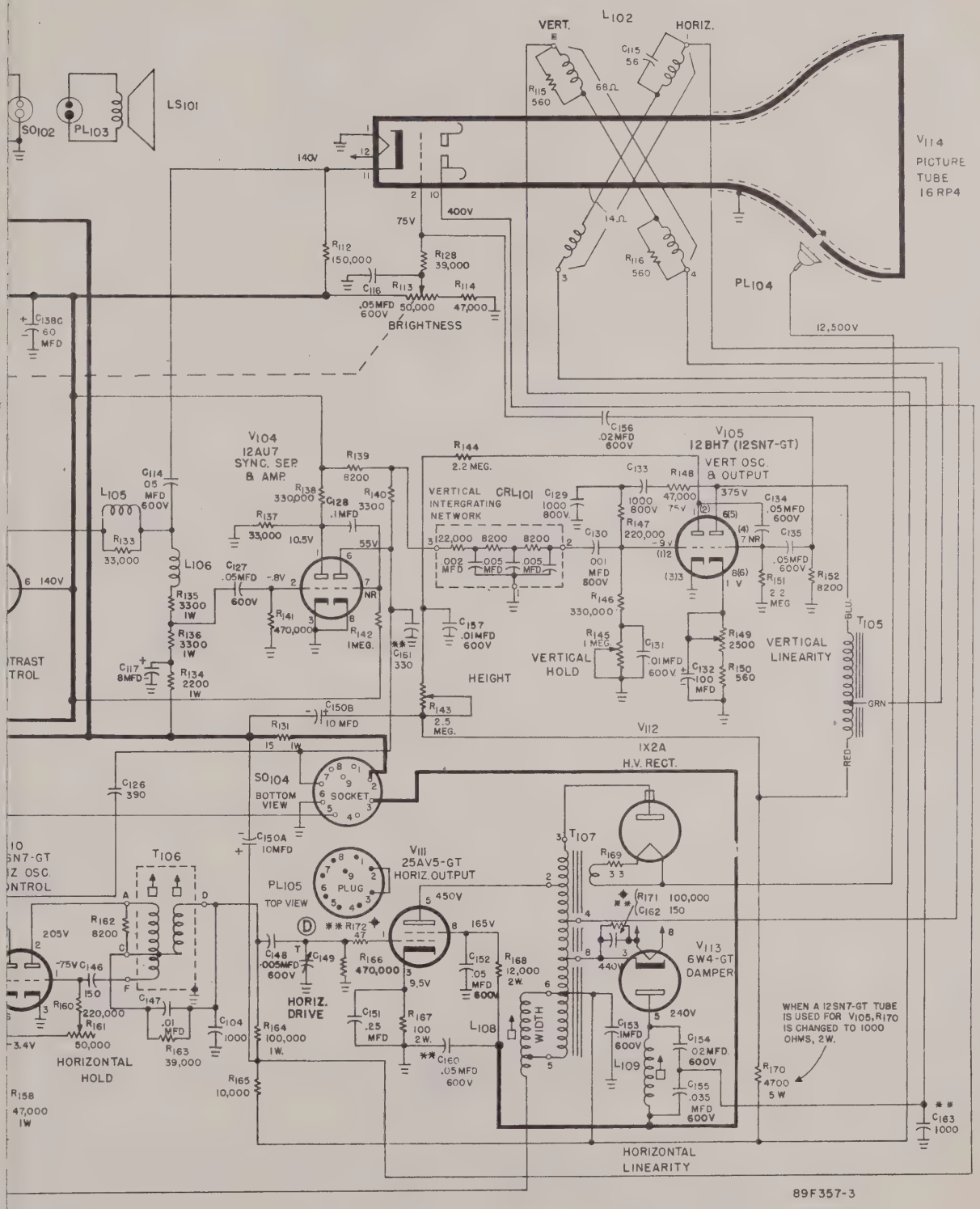
Reference Symbol	Description	Hallicrafters Part Number
	CAPACITORS (Cont.)	
C-142	.5 mfd. 200 V., tubular paper	46AT504J
C-143,148	.005 mfd. 600 V., tubular paper	46AY502J
C-145	.05 mfd. 200 V., tubular paper	46AU503J
C-146,162	150 mmf. 500 V., mica	47X20B151K
C-147	.01 mfd. 400 V., molded tubular	47A224 or 46BR103E4
C-149	Trimmer, HORIZONTAL DRIVE control	44A361
C-150A & B	Dual 10 mfd. 450 V., electrolytic	45B182
C-151	.25 mfd. 200 V., tubular paper	46AT254J
C-153	.1 mfd. 600 V., tubular paper	46AY104J
C-154,156	.02 mfd. 600 V., tubular paper	46AY203J
C-155	.035 mfd. 600 V., tubular paper	46AY353J
C-163	1000 mmf. 500 V., ceramic	47B20A102N5
C-164,165	.005 mfd. 10%, 600 V., tubular paper	46AY502E
C-167	.003 mfd. 600 V., tubular paper	46AY302J
	RESISTORS	
R-101,124	150 ohms 1/2 watt, carbon	23X20X151K
R-102	270 ohms 1/2 watt, carbon	23X20X271K
R-103,104	10,000 ohms 1/2 watt, carbon	23X20X103J
R-105,137	33,000 ohms 1/2 watt, carbon	23X20X333K
R-106,126, 139,152, 162	8200 ohms 1/2 watt, carbon	23X20X822K
R-107,132	1 megohm/2500 ohms; OFF-ON-VOLUME/CONTRAST control	25B902
R-108	6.8 megohms 1/2 watt, carbon	23X20X685M
R-109	390,000 ohms 1/2 watt, carbon	23X20X394K
R-110	390,000 ohms 1/2 watt, carbon	23X20X394J
R-111	270,000 ohms 1/2 watt, carbon	23X20X274J
R-112	150,000 ohms 1/2 watt, carbon	23X20X154K
R-113	50,000 ohms; PHONO/TV-BRIGHTNESS control	25A915
R-114	47,000 ohms 1/2 watt, carbon	23X20X473M
R-115,116, 150	560 ohms 1/2 watt, carbon	23X20X561K
R-117	82,000 ohms 1/2 watt, carbon	23X20X823K
R-118	47 ohms 1/2 watt, carbon	23X20X470K
R-119,120, 123	100 ohms 1/2 watt, carbon	23X20X101K
R-121,171	100,000 ohms 1/2 watt, carbon	23X20X104M
R-122,165	10,000 ohms 1/2 watt, carbon	23X20X103K
R-125	150 ohms 1/2 watt, carbon	23X20X151M
R-127	15,000 ohms 1/2 watt, carbon (part of L-103)	
R-128	39,000 ohms 1/2 watt, carbon	23X20X393M
R-129,160	220,000 ohms 1/2 watt, carbon	23X20X224K
R-130,142	1 megohm 1/2 watt, carbon	23X20X105M
R-131	15 ohms 1 watt, carbon	23X30X150M
R-133	33,000 ohms 1/2 watt, carbon (part of L-105)	
R-134	2200 ohms 1 watt, carbon	23X30X222M
R-135,136	3300 ohms 1 watt, carbon	23X30X332K
R-138,146	330,000 ohms 1/2 watt, carbon	23X20X334K
R-140	3300 ohms 1/2 watt, carbon	23X20X332K
R-141	470,000 ohms 1/2 watt, carbon	23X20X474K
R-143	2.5 megohms; HEIGHT control	25B711
R-144,151	2.2 megohms 1/2 watt, carbon	23X20X225M
R-145	1 megohm; VERTICAL HOLD control	25A900

SERVICE PARTS LIST FOR RUNS 2, 3, 4, 5, 6 & 7 (Cont.)

Reference Symbol	Description	Hallicrafters Part Number
	RESISTORS (Cont.)	
R-147	220,000 ohms 1/2 watt, carbon	23X20X224M
R-148	47,000 ohms 1/2 watt, carbon	23X20X473K
R-149	2500 ohms; VERTICAL LINEARITY control	25B899
R-153	20 ohms 10 watts, WW	24A927
R-154	22,000 ohms 1/2 watt, carbon	23X20X223K
R-155,163	39,000 ohms 1/2 watt, carbon	23X20X393K
R-156,173	100,000 ohms 1/2 watt, carbon	23X20X104K
R-157	8200 ohms 1/2 watt, carbon	23X20X822M
R-158	47,000 ohms, 1 watt, carbon	23X30X473K
R-161	50,000 ohms; HORIZONTAL HOLD control	25A901
R-164	100,000 ohms 1 watt, carbon	23X30X104K
R-166	470,000 ohms 1/2 watt, carbon	23X20X474M
R-167	100 ohms 2 watts, carbon	23X40X101K
R-168	12,000 ohms 2 watts, carbon or	23X40X123K
	5600 ohms 2 watts, carbon (See Fig. 26.) or	23X40X562M
	6800 ohms 2 watts, carbon (See Fig. 26.)	23X40X682K
R-169	3.3 ohms 1/2 watt, carbon	23X20X033K
R-170	4700 ohms 5 watts, WW or	24BF472E
	1000 ohms 2 watts carbon (see schematic notes)	23X40X102K
R-172	47 ohms 1/2 watt, carbon	23X20X470M
R-174	390 ohms 1 watt, carbon	23X30X391K
R-175	750 ohms 3 watts, WW	24A929
R-176	1500 ohms 4 watts; FOCUS control	25A934
R-177	1000 ohms 10 watts, WW	24BG102E
R-178	150 ohms 1 watt, carbon	23X30X151K
R-179	5 ohms 10 watts, WW	24A923
R-180	18,000 ohms 1 watt, carbon	23X30X183K
	TUBES AND RECTIFIERS	
V-1	6AG5: r-f amplifier or	90X6AG5
	6BC5; r-f amplifier or	90X6BC5
	6CB6; r-f amplifier or	90X6CB6
V-2	6J6: oscillator/mixer	90X6J6
V-101,102, 103	6CB6; 1st and 2nd i-f amp. and video amp.	90X6CB6
V-104	12AU7; sync. separator and amplifier	90X12AU7
V-105	12BH7; vert. osc. and output or	90X12BH7
	12SN7GT; vert. osc. and output	90X12SN7GT
V-106	6AU6; audio i-f amp.	90X6AU6
V-107	6AL5; FM detector	90X6AL5
V-108	6AV6; audio amplifier or	90X6AV6
	6SQ7; audio amplifier	90X6SQ7
V-109	25L6GT; audio output	90X25L6GT
V-110	12SN7GT; hor. osc. and control	90X12SN7GT
V-111	25AV5GT; horizontal output or	90X25AV5GT
	25BQ6GT; horizontal output	90X25BQ6GT
V-112	1X2A; high voltage rectifier	90X1X2A
V-113	6W4GT; damper	90X6W4GT
V-114	16RP4: picture tube or	90X16RP4
	16TP4: picture tube or	90X16TP4
	16UP4; picture tube	90X16UP4

Reference Symbol	Description	Hallicrafters Part Number
	TUBES AND RECTIFIERS (Cont.)	
X-101	1N60 crystal diode	19B1246
X-102,103	Selenium rectifier, 300 ma.	27A155
	MISCELLANEOUS PARTS	
	Bracket, color plug retainer	67A1414
	Bracket, deflection yoke and focus assembly mtg. (bottom)	67D1384
	Bracket, deflection yoke and focus assembly mtg. (upper)	67D1348
	Bracket, deflection yoke mtg.; (mounted on 67D1348)	67C1244 or 67B1305
	Bracket, focus assembly support (mounted on 67D1348)	67C1386
	Bracket, EM-PM focus coil mtg. (mounted on 67C1386)	67C1251
	Bracket, pivot; for centering control lever	67A1360 or 67B1351
	Bracket, mounting for TS-101 and SO-101	67C1258
	Bracket, picture tube mtg.; front right	67C1313
	Bracket, picture tube mtg.; front left	67C1312
	Collar, picture tube mtg. (mounted in front of deflection yoke)	16C202
	Cushion, picture tube mtg.; sponge rubber	16A163
	Focus device assembly; permanent magnet (PM)	21C118 or 21C121 or 21C123
F-101	Fuse, 1/4 amp. 250 V.; slow blow	39A353
F-102	Fuse, 1.5 amp. 250 V.; pigtail leads	39A354
	Fuse holder for F-101	6A053
	Ion trap; 39 to 49 gauss	21A120
	Lever, centering control	74B338
PL-104	Plug, picture tube anode	10A377
PL-105	Plug, 9 prong (color adapter)	10A299
	Shell, plug (for PL-105)	69A369
SO-101	Socket, a-c power	10A286
	Socket, miniature 9 pin; molded mica	6A360
	Socket, miniature 9 pin; wafer	6A334
	Socket, miniature 7 pin; wafer	6A340
SO-104	Socket, 9 pin (color adapter)	6A370
	Socket, 9 pin; wafer with corona ring	6A361
	Socket, octal; molded	6B296
SO-103	Socket, phono input	36A041
	Socket, picture tube	6A362
SO-102	Socket, speaker	10A373
	Spring, picture tube ground	75B177
	Strap, picture tube mounting	76A628
S-101	Switch, OFF-ON (part of R-107)	
S-102	Switch, PHONO-TV (part of R-113)	
TS-101	Terminal strip, antenna	88A020 or 88A679
	Tuning unit assembly	1D1049
CRL-101	Vertical integrating network	49B015

FIG. 25. SCHEMATIC DIAGRAM FOR RUNS 2 AND 3.



SPECIFIED.

ER

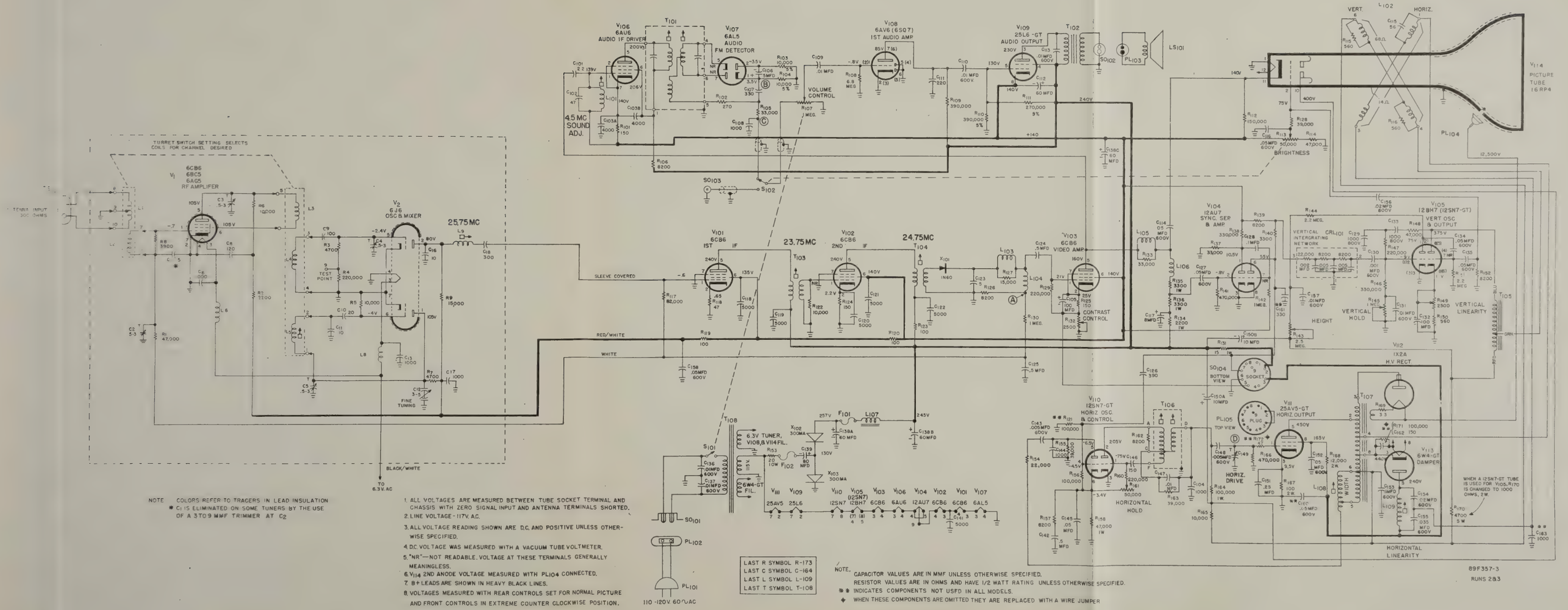
SERVICE PARTS LIST FOR RUNS 2, 3, 4, 5, 6 & 7 (Cont.)

Reference Symbol	Description	Hallicrafters Part Number
	RESISTORS (Cont.)	
R-147	220,000 ohms 1/2 watt, carbon	23X20X224M
R-148	47,000 ohms 1/2 watt, carbon	23X20X473K
R-149	2500 ohms; VERTICAL LINEARITY control	25B899
R-153	20 ohms 10 watts, WW	24A927
R-154	22,000 ohms 1/2 watt, carbon	23X20X223K
R-155,163	39,000 ohms 1/2 watt, carbon	23X20X393K
R-156,173	100,000 ohms 1/2 watt, carbon	23X20X104K
R-157	8200 ohms 1/2 watt, carbon	23X20X822M
R-158	47,000 ohms, 1 watt, carbon	23X30X473K
R-161	50,000 ohms; HORIZONTAL HOLD control	25A901
R-164	100,000 ohms 1 watt, carbon	23X30X104K
R-166	470,000 ohms 1/2 watt, carbon	23X20X474M
R-167	100 ohms 2 watts, carbon	23X40X101K
R-168	12,000 ohms 2 watts, carbon or	23X40X123K
	5600 ohms 2 watts, carbon (See Fig. 26.) or	23X40X562M
	6800 ohms 2 watts, carbon (See Fig. 26.)	23X40X682K
R-169	3.3 ohms 1/2 watt, carbon	23X20X033K
R-170	4700 ohms 5 watts, WW or	24BF472E
	1000 ohms 2 watts carbon (see schematic notes)	23X40X102K
R-172	47 ohms 1/2 watt, carbon	23X20X470M
R-174	390 ohms 1 watt, carbon	23X30X391K
R-175	750 ohms 3 watts, WW	24A929
R-176	1500 ohms 4 watts; FOCUS control	25A934
R-177	1000 ohms 10 watts, WW	24BG102E
R-178	150 ohms 1 watt, carbon	23X30X151K
R-179	5 ohms 10 watts, WW	24A923
R-180	18,000 ohms 1 watt, carbon	23X30X183K
	TUBES AND RECTIFIERS	
V-1	6AG5: r-f amplifier or	90X6AG5
	6BC5; r-f amplifier or	90X6BC5
	6CB6; r-f amplifier or	90X6CB6
V-2	6J6: oscillator/mixer	90X6J6
V-101,102, 103	6CB6; 1st and 2nd i-f amp. and video amp.	90X6CB6
V-104	12AU7; sync. separator and amplifier	90X12AU7
V-105	12BH7; vert. osc. and output or	90X12BH7
	12SN7GT; vert. osc. and output	90X12SN7GT
V-106	6AU6; audio i-f amp.	90X6AU6
V-107	6AL5; FM detector	90X6AL5
V-108	6AV6; audio amplifier or	90X6AV6
	6SQ7; audio amplifier	90X6SQ7
V-109	25L6GT; audio output	90X25L6GT
V-110	12SN7GT; hor. osc. and control	90X12SN7GT
V-111	25AV5GT; horizontal output or	90X25AV5GT
	25BQ6GT; horizontal output	90X25BQ6GT
V-112	1X2A; high voltage rectifier	90X1X2A
V-113	6W4GT; damper	90X6W4GT
V-114	16RP4: picture tube or	90X16RP4
	16TP4: picture tube or	90X16TP4
	16UP4; picture tube	90X16UP4

Reference Symbol	Description	Hallicrafters Part Number
	TUBES AND RECTIFIERS (Cont.)	
X-101	1N60 crystal diode	19B1246
X-102,103	Selenium rectifier, 300 ma.	27A155
	MISCELLANEOUS PARTS	
	Bracket, color plug retainer	67A1414
	Bracket, deflection yoke and focus assembly mtg. (bottom)	67D1384
	Bracket, deflection yoke and focus assembly mtg. (upper)	67D1348
	Bracket, deflection yoke mtg.; (mounted on 67D1348)	67C1244 or 67B1305
	Bracket, focus assembly support (mounted on 67D1348)	67C1386
	Bracket, EM-PM focus coil mtg. (mounted on 67C1386)	67C1251
	Bracket, pivot; for centering control lever	67A1360 or 67B1351
	Bracket, mounting for TS-101 and SO-101	67C1258
	Bracket, picture tube mtg.; front right	67C1313
	Bracket, picture tube mtg.; front left	67C1312
	Collar, picture tube mtg. (mounted in front of deflection yoke)	16C202
	Cushion, picture tube mtg.; sponge rubber	16A163
	Focus device assembly; permanent magnet (PM)	21C118 or 21C121 or 21C123
F-101	Fuse, 1/4 amp. 250 V.; slow blow	39A353
F-102	Fuse, 1.5 amp. 250 V.; pigtail leads	39A354
	Fuse holder for F-101	6A053
	Ion trap; 39 to 49 gauss	21A120
	Lever, centering control	74B338
PL-104	Plug, picture tube anode	10A377
PL-105	Plug, 9 prong (color adapter)	10A299
	Shell, plug (for PL-105)	69A369
SO-101	Socket, a-c power	10A286
	Socket, miniature 9 pin; molded mica	6A360
	Socket, miniature 9 pin; wafer	6A334
	Socket, miniature 7 pin; wafer	6A340
SO-104	Socket, 9 pin (color adapter)	6A370
	Socket, 9 pin; wafer with corona ring	6A361
	Socket, octal; molded	6B296
SO-103	Socket, phono input	36A041
	Socket, picture tube	6A362
SO-102	Socket, speaker	10A373
	Spring, picture tube ground	75B177
	Strap, picture tube mounting	76A628
S-101	Switch, OFF-ON (part of R-107)	
S-102	Switch, PHONO-TV (part of R-113)	
TS-101	Terminal strip, antenna	88A020 or 88A679
	Tuning unit assembly	1D1049
CRL-101	Vertical integrating network	49B015

VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

FIG. 25. SCHEMATIC DIAGRAM FOR RUNS 2 AND 3.



NOTE COLORS REFER TO TRAGERS IN LEAD INSULATION
* C_1 IS ELIMINATED ON SOME TUNERS BY THE USE OF A 3 TO 9 MMF TRIMMER AT C_2

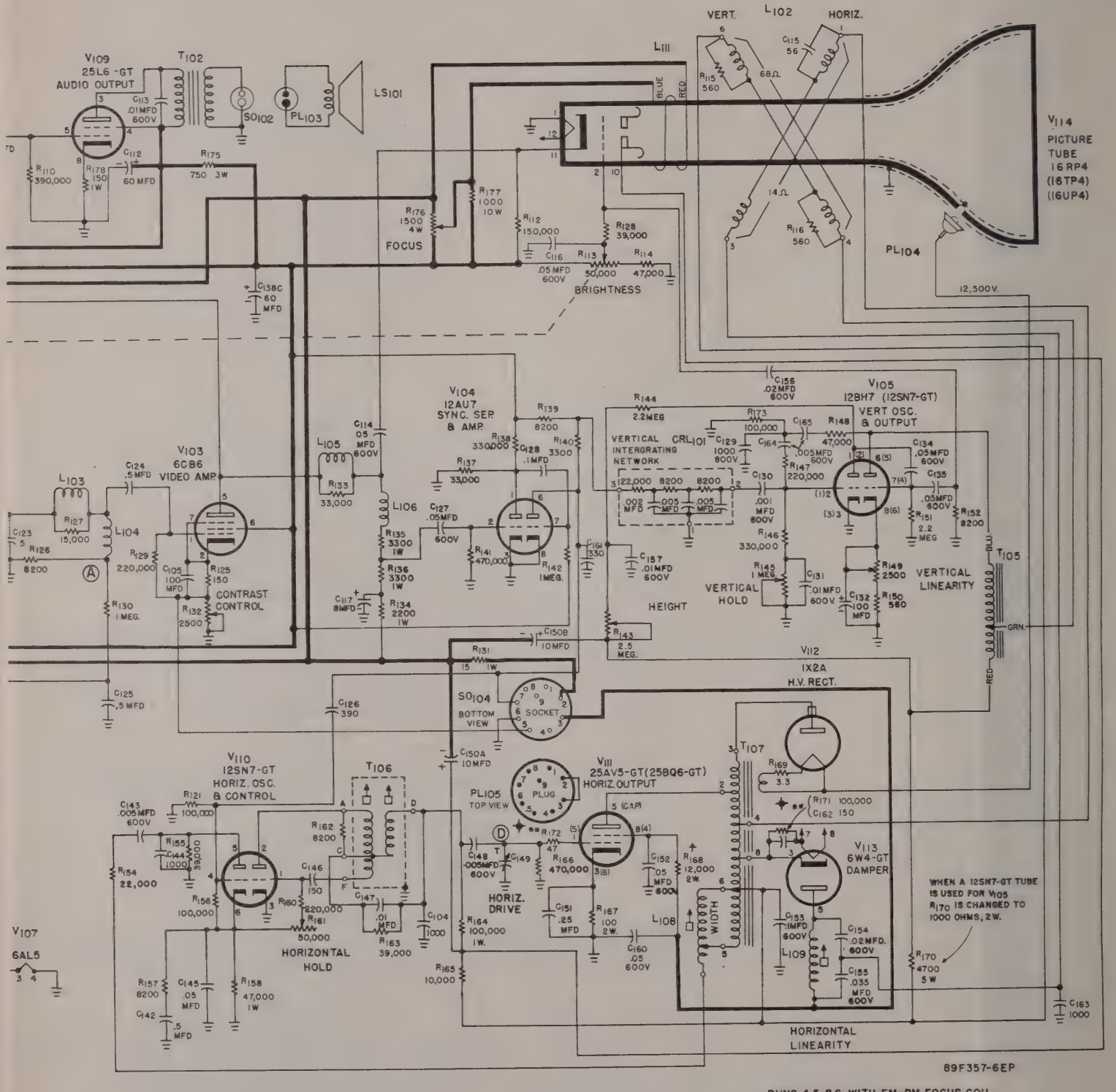
1. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINAL AND CHASSIS WITH ZERO SIGNAL INPUT AND ANTENNA TERMINALS SHORTED.
2. LINE VOLTAGE - 117V. A.C.
3. ALL VOLTAGE READING SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.
4. D.C. VOLTAGE WAS MEASURED WITH A VACUUM TUBE VOLTMETER.
5. "NR"—NOT READABLE. VOLTAGE AT THESE TERMINALS GENERALLY MEANINGLESS.
6. V_{114} 2ND ANODE VOLTAGE MEASURED WITH PL104 CONNECTED.
7. B+ LEADS ARE SHOWN IN HEAVY BLACK LINES.
8. VOLTAGES MEASURED WITH REAR CONTROLS SET FOR NORMAL PICTURE AND FRONT CONTROLS IN EXTREME COUNTER CLOCKWISE POSITION.

LAST R SYMBOL	R-173
LAST C SYMBOL	C-164
LAST L SYMBOL	L-109
LAST T SYMBOL	T-108

NOTE, CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.
RESISTOR VALUES ARE IN OHMS AND HAVE 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.
** INDICATES COMPONENTS NOT USED IN ALL MODELS.
◆ WHEN THESE COMPONENTS ARE OMITTED THEY ARE REPLACED WITH A WIRE JUMPER

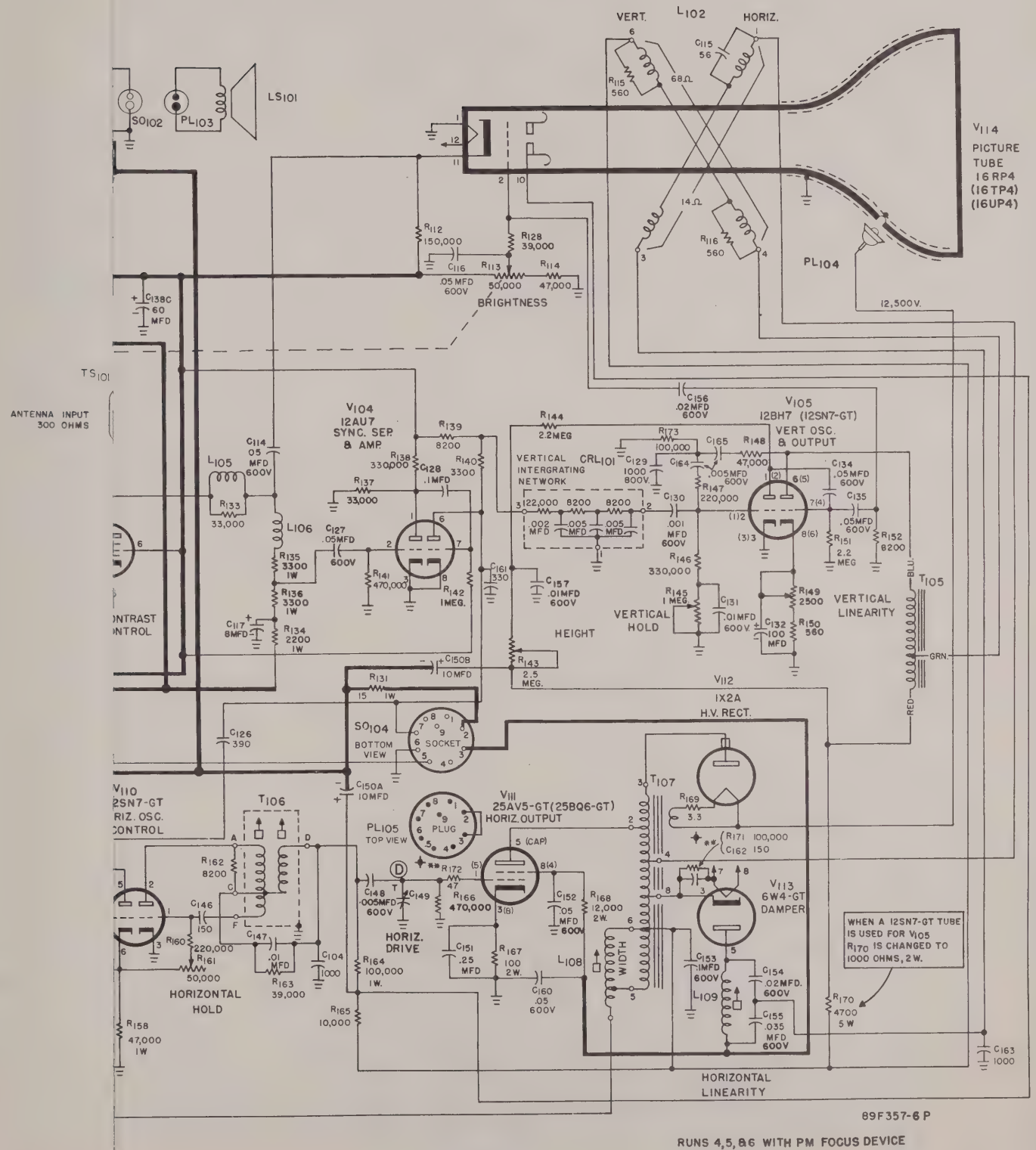
89F357-3
RUNS 2&3

FIG. 26. SCHEMATIC DIAGRAM FOR RUNS 4, 5 & 6 WITH EM-FM FOCUS COIL.



RUNS 4,5,&6 WITH EM-PM FOCUS COIL

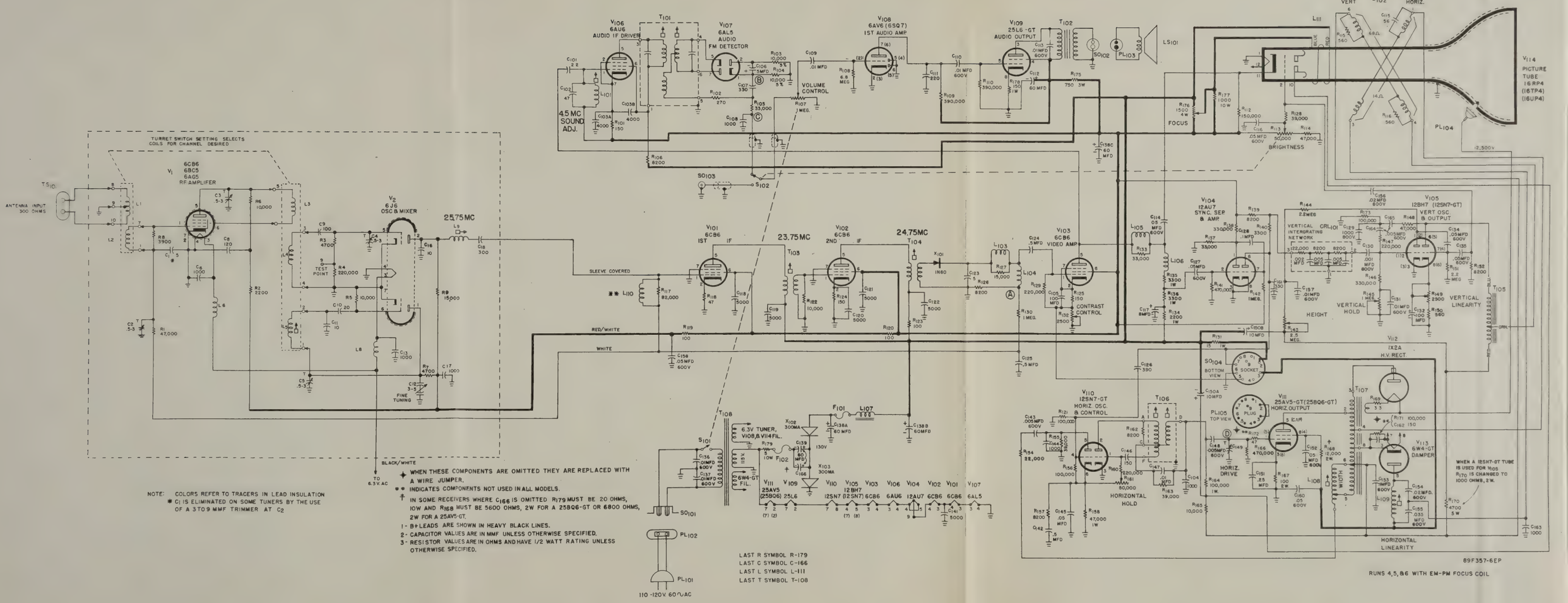
FIG. 27. SCHEMATIC DIAGRAM FOR RUNS 4, 5 & 6 WITH PM FOCUS DEVICE.



RUNS 4,5,&6 WITH PM FOCUS DEVICE

VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

FIG. 26. SCHEMATIC DIAGRAM FOR RUNS 4, 5 & 6 WITH EM-FM FOCUS COIL.



NOTE: COLORS REFER TO TRACERS IN LEAD INSULATION
* C_1 IS ELIMINATED ON SOME TUNERS BY THE USE OF A 3TO9 MMF TRIMMER AT C_2

✦ WHEN THESE COMPONENTS ARE OMITTED THEY ARE REPLACED WITH A WIRE JUMPER.
** INDICATES COMPONENTS NOT USED IN ALL MODELS.
† IN SOME RECEIVERS WHERE C_{166} IS OMITTED R_{179} MUST BE 20 OHMS, 10W AND R_{168} MUST BE 5600 OHMS, 2W FOR A 25BQ6-GT OR 6800 OHMS, 2W FOR A 25AV5-GT.

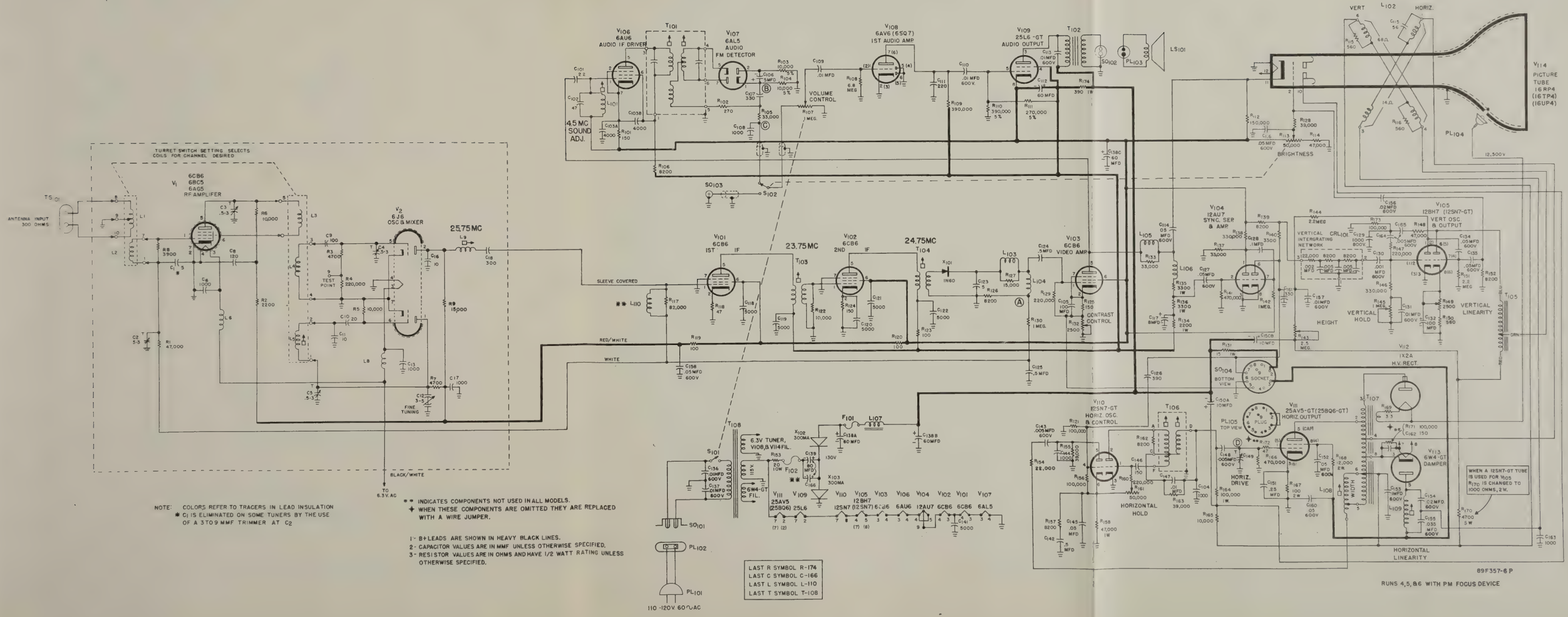
1 - B+ LEADS ARE SHOWN IN HEAVY BLACK LINES.
2 - CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.
3 - RESISTOR VALUES ARE IN OHMS AND HAVE 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.

LAST R SYMBOL R-179
LAST C SYMBOL C-166
LAST L SYMBOL L-111
LAST T SYMBOL T-108

WHEN A 12SN7-GT TUBE IS USED FOR V_{109} R_{170} IS CHANGED TO 1000 OHMS, 2W.

VALUES & TOLERENCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

FIG. 27. SCHEMATIC DIAGRAM FOR RUNS 4, 5 & 6 WITH PM FOCUS DEVICE.

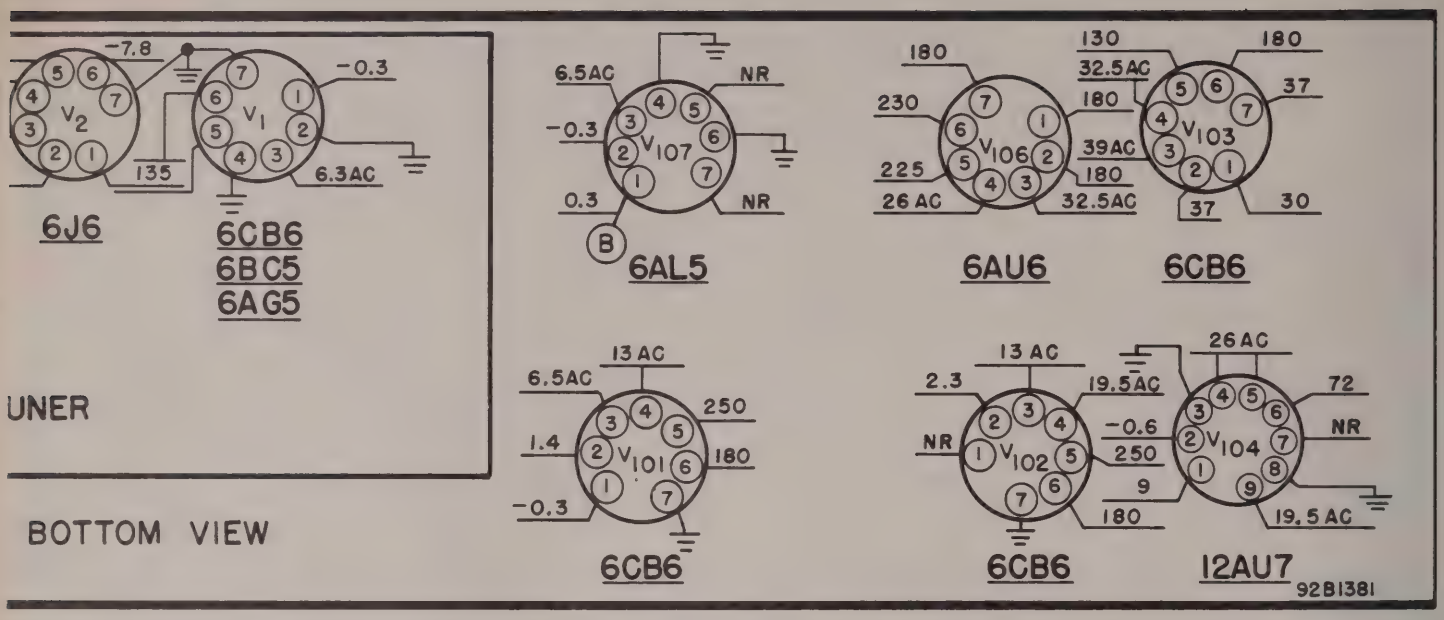


NOTE: COLORS REFER TO TRACERS IN LEAD INSULATION
* C_1 IS ELIMINATED ON SOME TUNERS BY THE USE OF A 3 TO 9 MMF TRIMMER AT C_2

** INDICATES COMPONENTS NOT USED IN ALL MODELS.
✦ WHEN THESE COMPONENTS ARE OMITTED THEY ARE REPLACED WITH A WIRE JUMPER.

1- B+ LEADS ARE SHOWN IN HEAVY BLACK LINES.
2- CAPACITOR VALUES ARE IN MMF UNLESS OTHERWISE SPECIFIED.
3- RESISTOR VALUES ARE IN OHMS AND HAVE 1/2 WATT RATING UNLESS OTHERWISE SPECIFIED.

LAST R SYMBOL R-174
LAST C SYMBOL C-166
LAST L SYMBOL L-110
LAST T SYMBOL T-108



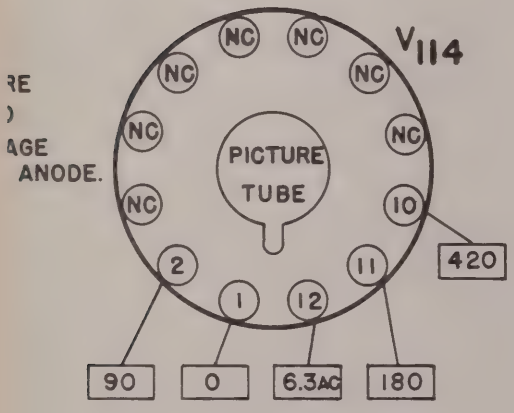


FIG. 29. VOLTAGE CHART FOR TUNER-IF ASSEMBLY AND PICTURE TUBE (V-114).
RUNS 4, 5 & 6 WITH EM-PM FOCUS COIL.

L VOLTAGES ARE MEASURED BETWEEN THE TUBE SOCKET TERMINAL AND THE CHASSIS WITH ZERO GNAL INPUT AND THE ANTENNA TERMINALS SHORTED.

NE VOLTAGE SET AT 117 VOLTS.

L VOLTAGE READINGS SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.

L D.C. VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER (VTVM).

R" INDICATES THAT THE VOLTAGE IS NOT READABLE. VOLTAGE AT THESE TERMINALS IS USUALLY CANINGLESS.

LTAGES ARE MEASURED WITH REAR CONTROLS SET FOR NORMAL PICTURE OPERATION AND FRONT NTROLS IN THE EXTREME COUNTERCLOCKWISE POSITION.

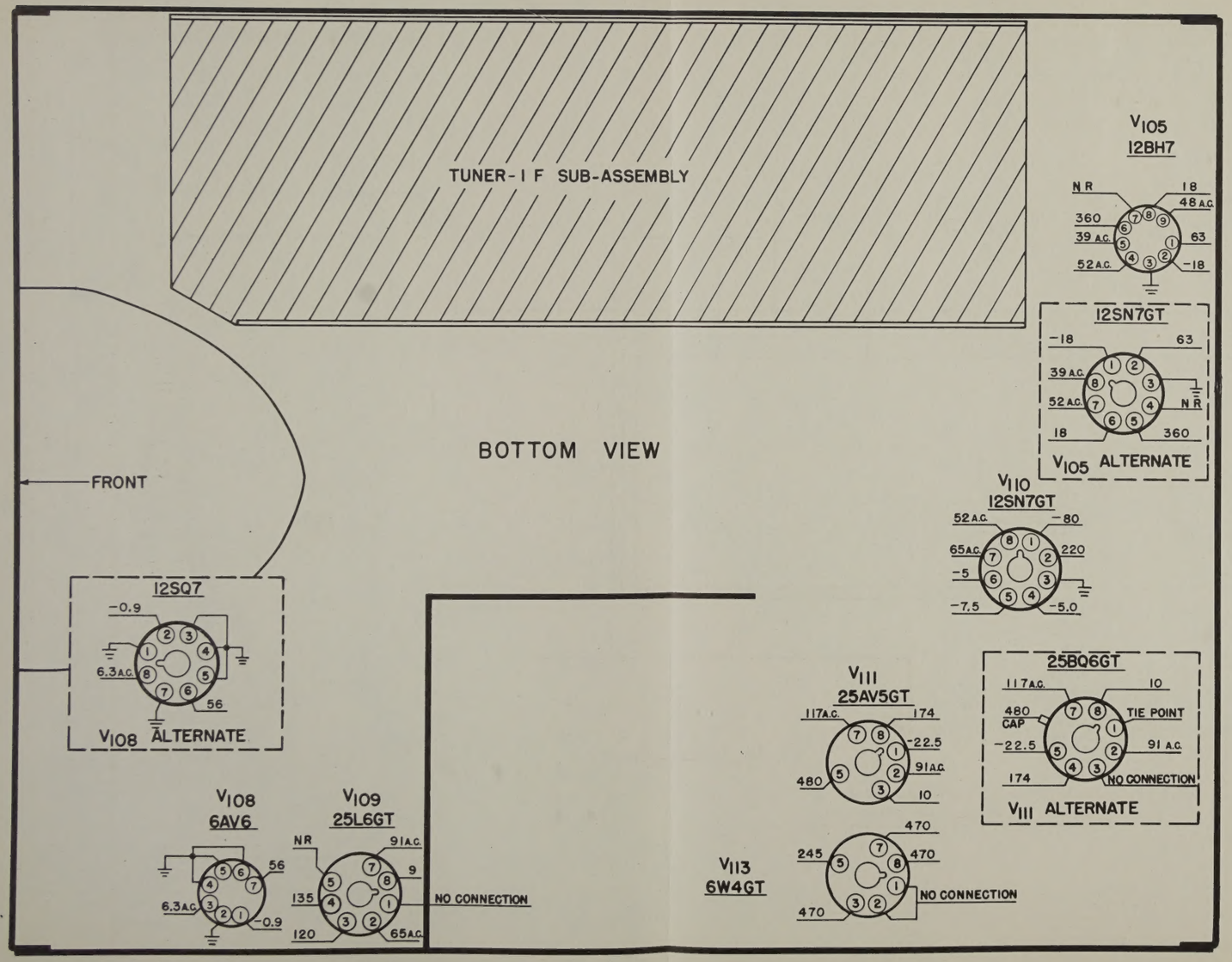
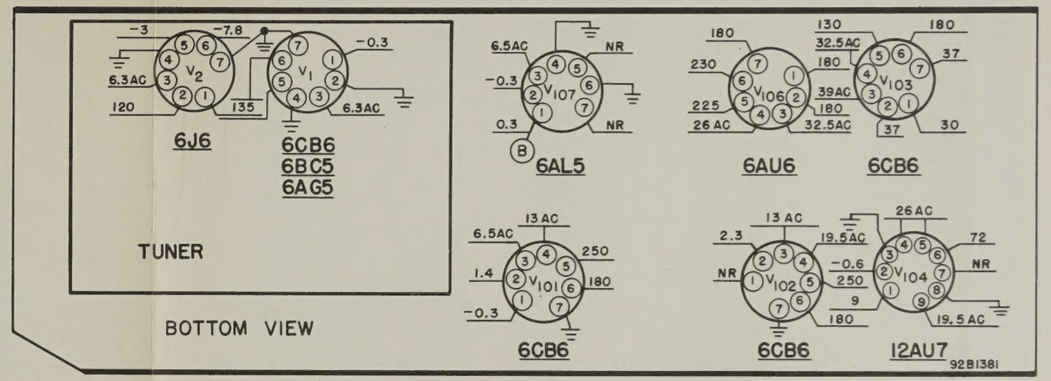
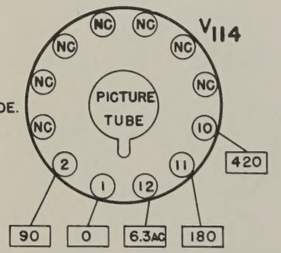


FIG. 28. VOLTAGE CHART FOR MAIN CHASSIS. RUNS 4, 5, & 6 WITH EM-PM FOCUS COIL.

92C1380



CAUTION — SEE TEXT BEFORE ATTEMPTING TO MEASURE VOLTAGE ON THE SECOND ANODE.



92A1383

FIG. 29. VOLTAGE CHART FOR TUNER-IF ASSEMBLY AND PICTURE TUBE (V-114). RUNS 4, 5 & 6 WITH EM-PM FOCUS COIL.

1. ALL VOLTAGES ARE MEASURED BETWEEN THE TUBE SOCKET TERMINAL AND THE CHASSIS WITH ZERO SIGNAL INPUT AND THE ANTENNA TERMINALS SHORTED.
2. LINE VOLTAGE SET AT 117 VOLTS.
3. ALL VOLTAGE READINGS SHOWN ARE D.C. AND POSITIVE UNLESS OTHERWISE SPECIFIED.
4. ALL D.C. VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER (VTVM).
5. "NR" INDICATES THAT THE VOLTAGE IS NOT READABLE. VOLTAGE AT THESE TERMINALS IS USUALLY MEANINGLESS.
6. VOLTAGES ARE MEASURED WITH REAR CONTROLS SET FOR NORMAL PICTURE OPERATION AND FRONT CONTROLS IN THE EXTREME COUNTERCLOCKWISE POSITION.